

# **A PILE OF RUBBISH**

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**cs938**

**In 2024 Rainham Landfill will be closed and converted into a nature park. This project works within existing policy and legislation to envisage what that park could be. It critiques the short-sightedness of current approaches and proposes a more holistic, long term view of Landfill management.**



**We are all stardust, we are  
all trash. Spending time in  
rubbish places, with their  
people and their gulls,  
we may begin to unpick  
the weave of this rag rug  
world.**

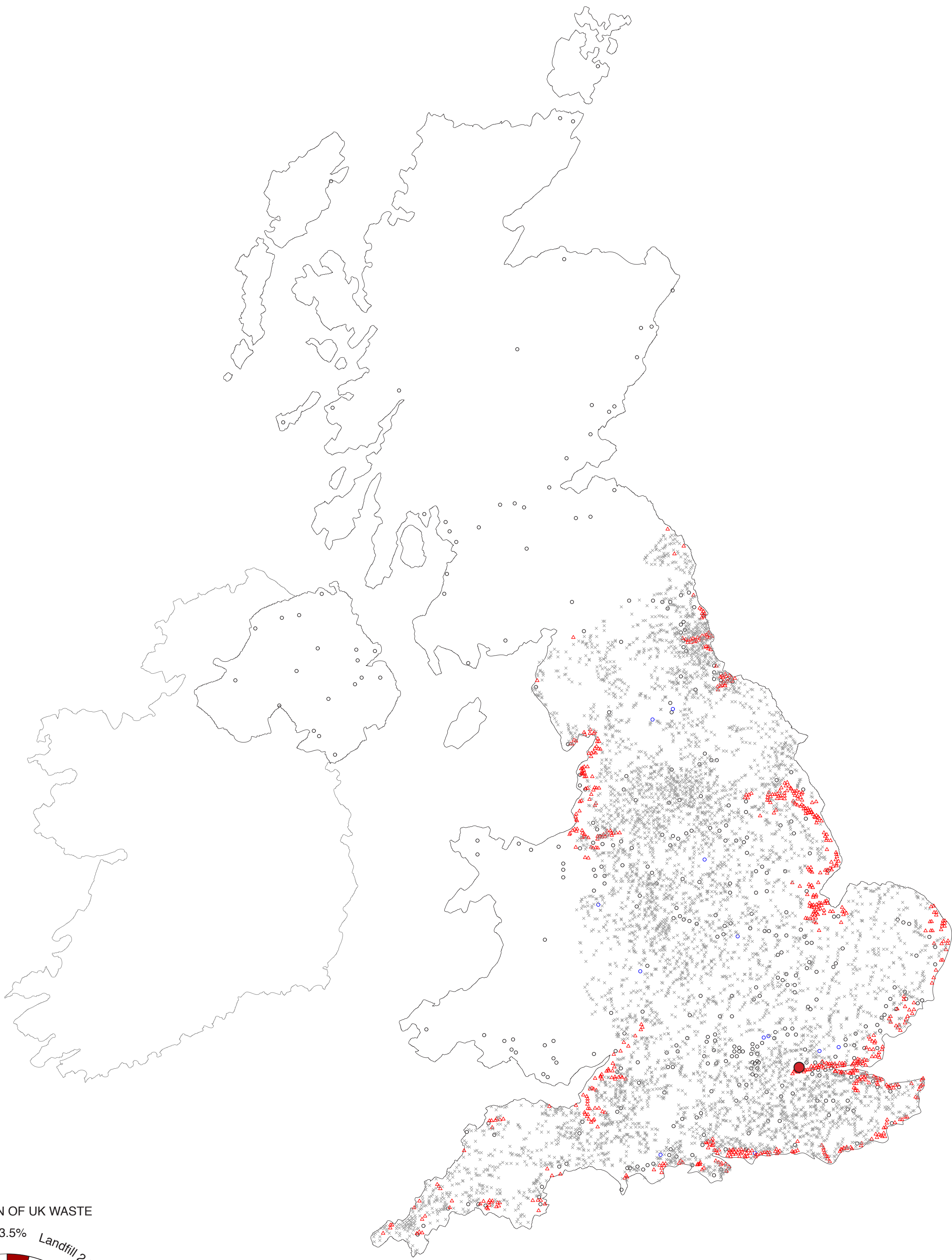
Tim Dee, Landfill, 2018



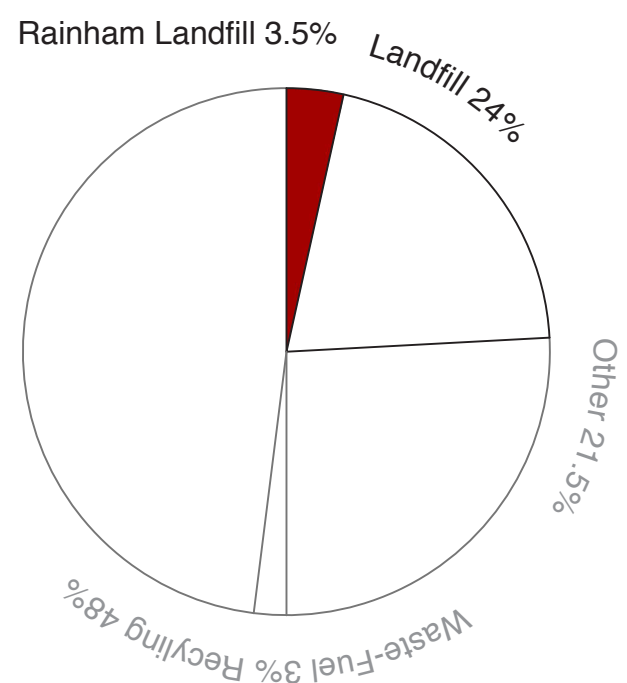








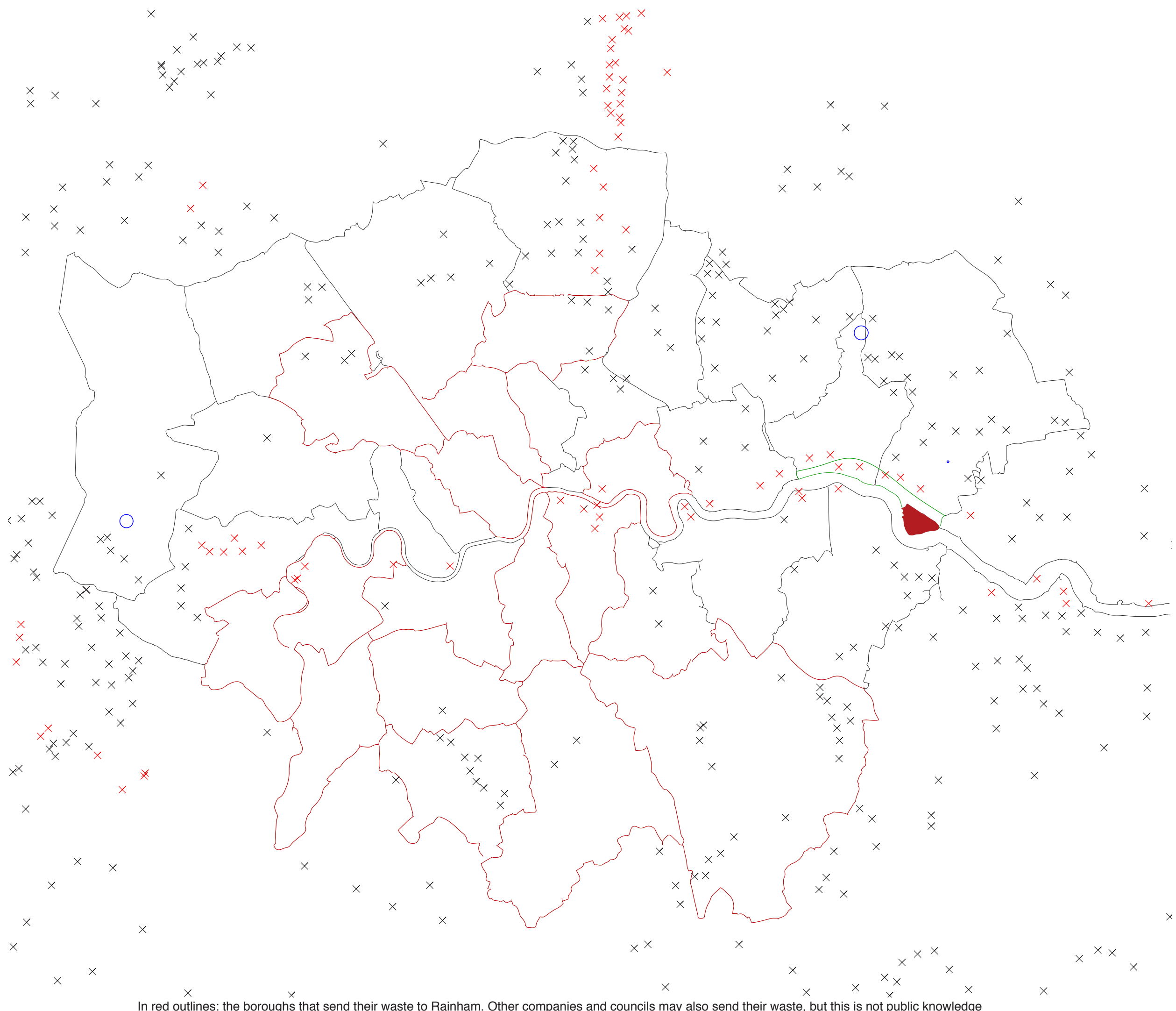
BREAKDOWN OF UK WASTE



A MAP OF THE UK'S LANDFILLS

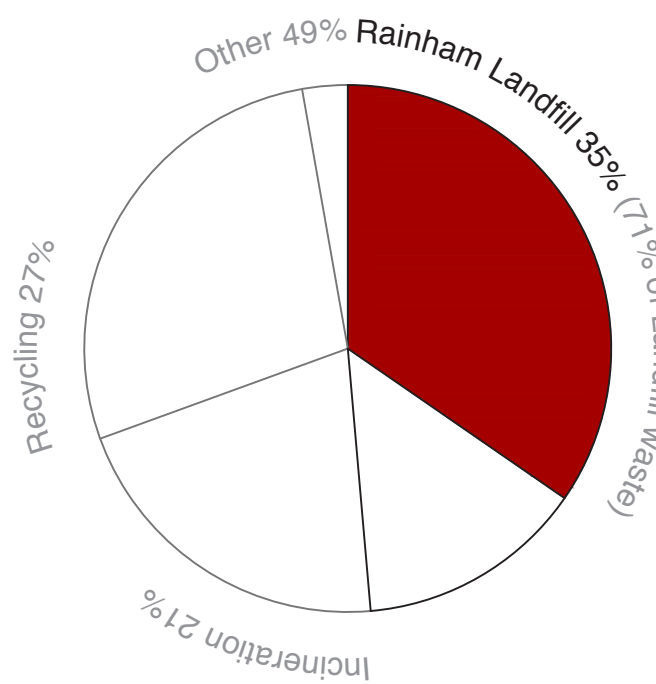
X= Former Landfill site  
Triangle= Landfills at risk of poluting water  
Circle= Active Landfill  
SOLID RED: Rainham Landfill  
The UK's coastlines and riverbanks are occupied by Landfills, polluting the water and contaminating the air





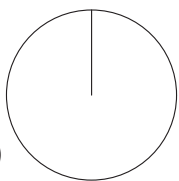
In red outlines: the boroughs that send their waste to Rainham. Other companies and councils may also send their waste, but this is not public knowledge

**LONDON**



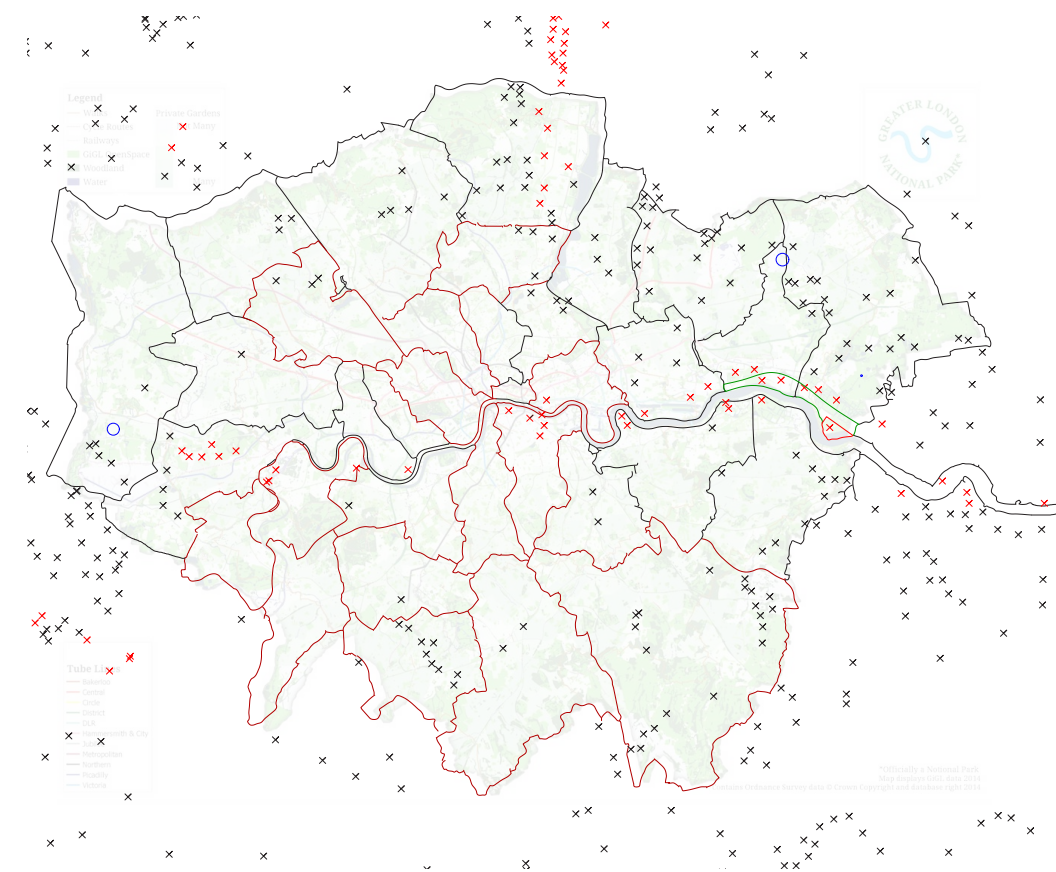
**WHERE THE UK'S LANDFILLS ARE /  
WHERE LONDON'S ARE**  
X= Former Landfill site  
X/Triangle= Landfills at risk of polluting water  
Circle= Active Landfill  
SOLID RED: Rainham Landfill

(not to scale)





GREEN OUTLINE: London riverside  
RED: Environmentally risky historic landfills  
GREY Historic landfills  
SOLID RED: Rainham Landfill



## THE 2013 LONDON PLAN:

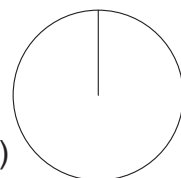
### THE ALL LONDON GREEN GRID

A regeneration scheme aiming to “Restore previous mineral extractions and landfill sites with an accessible landscape structure of woods and hedgerows for instance the landfill site at Rainham when this becomes inactive.”

KEY AREA: LONDON RIVERSIDE (outlined to the left)

Rainham Landfill is **set to close in 2024** as part of The All London Green Grid's regeneration of the eastend's riverfront.

(not to scale)







1:5000 VILLAGE, MARSHES AND LANDFILL

△ Leachate Pump

◇ Boreholes

□ Leachate Monitoring

○ Gas Monitoring

— Active Dump Site

— Landfill

— edge of Specific Scientific Interest

— Dredging Site

— Dredging Pipe

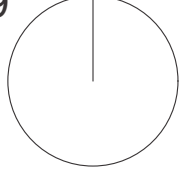

■ High Flooding Risk

0

100

500m

2019







**1:5000 SITE MODEL**  
Showing the man-made hills of waste

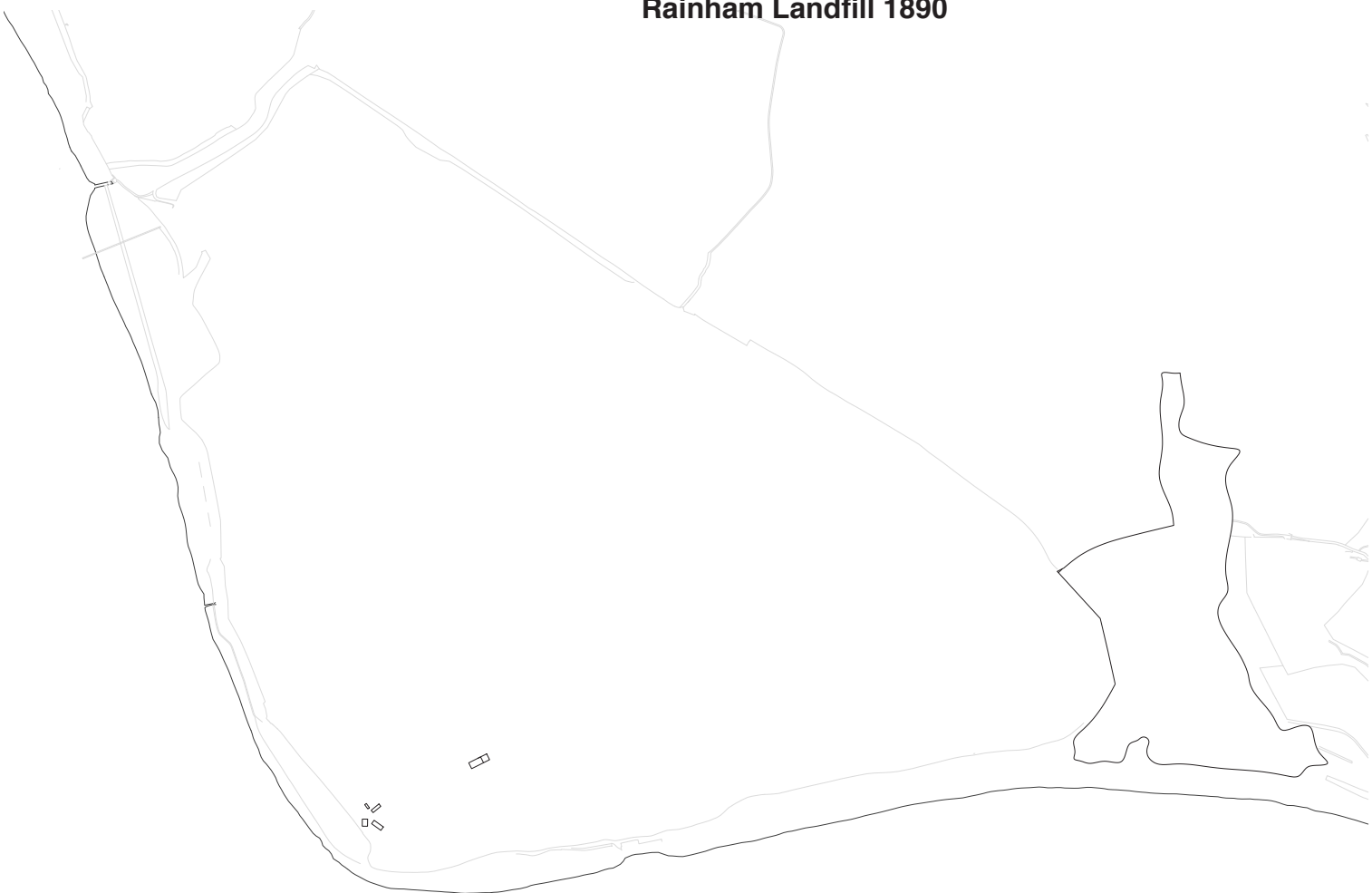
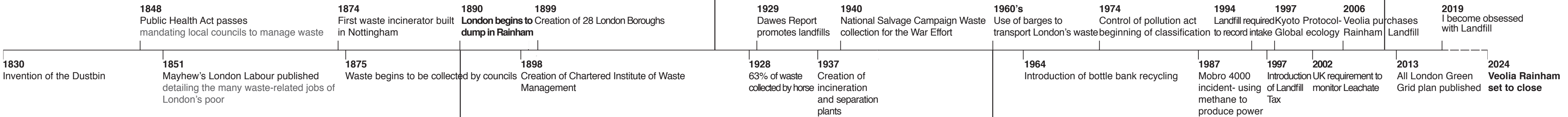




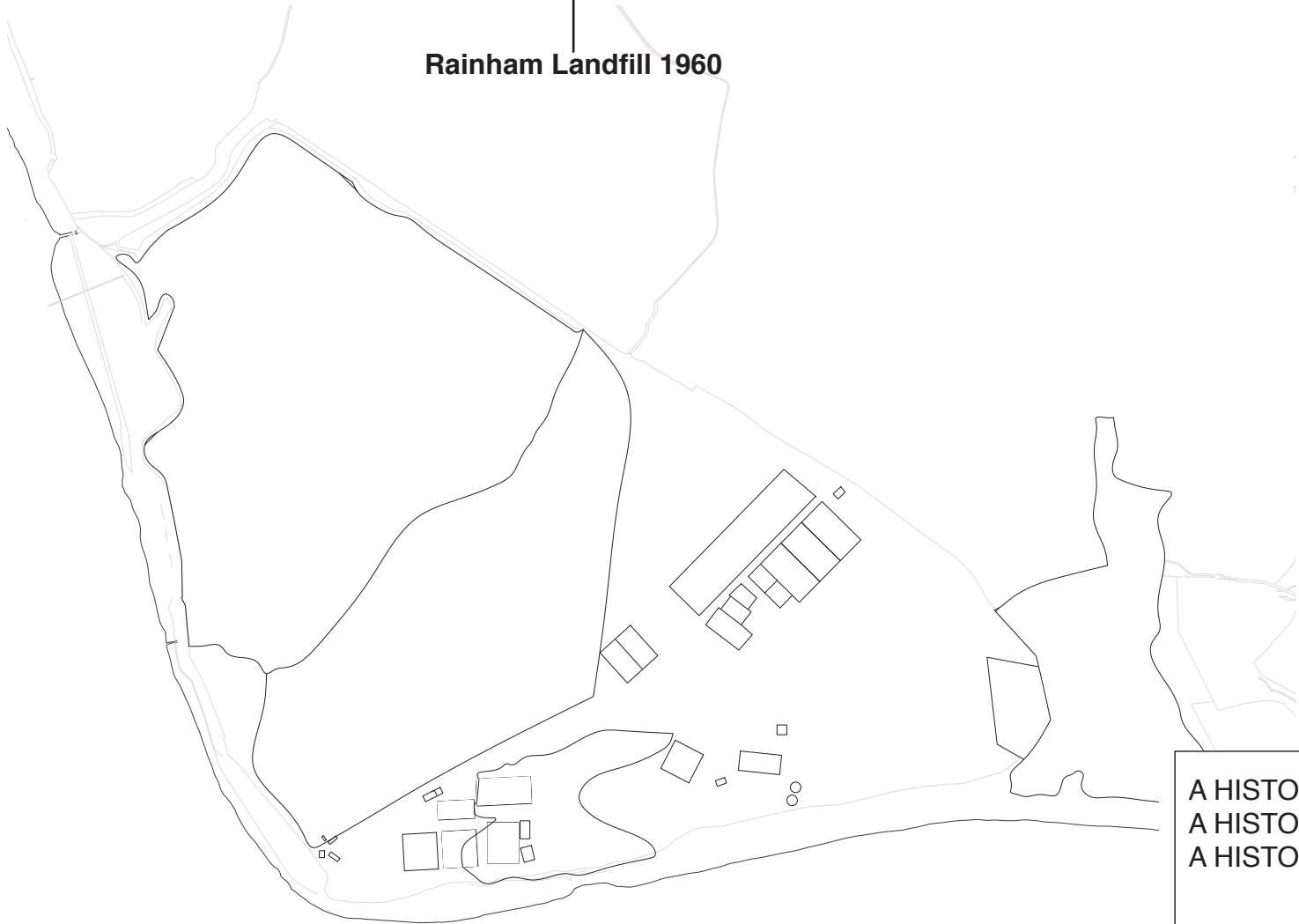
Rainham Landfill 1920



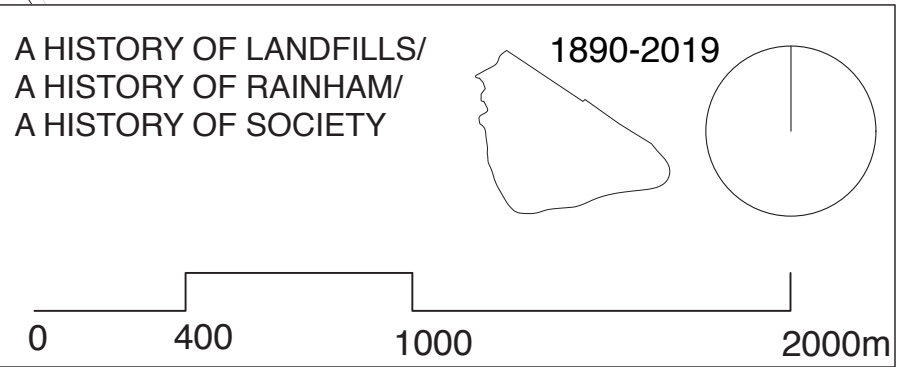
Rainham Landfill 2019

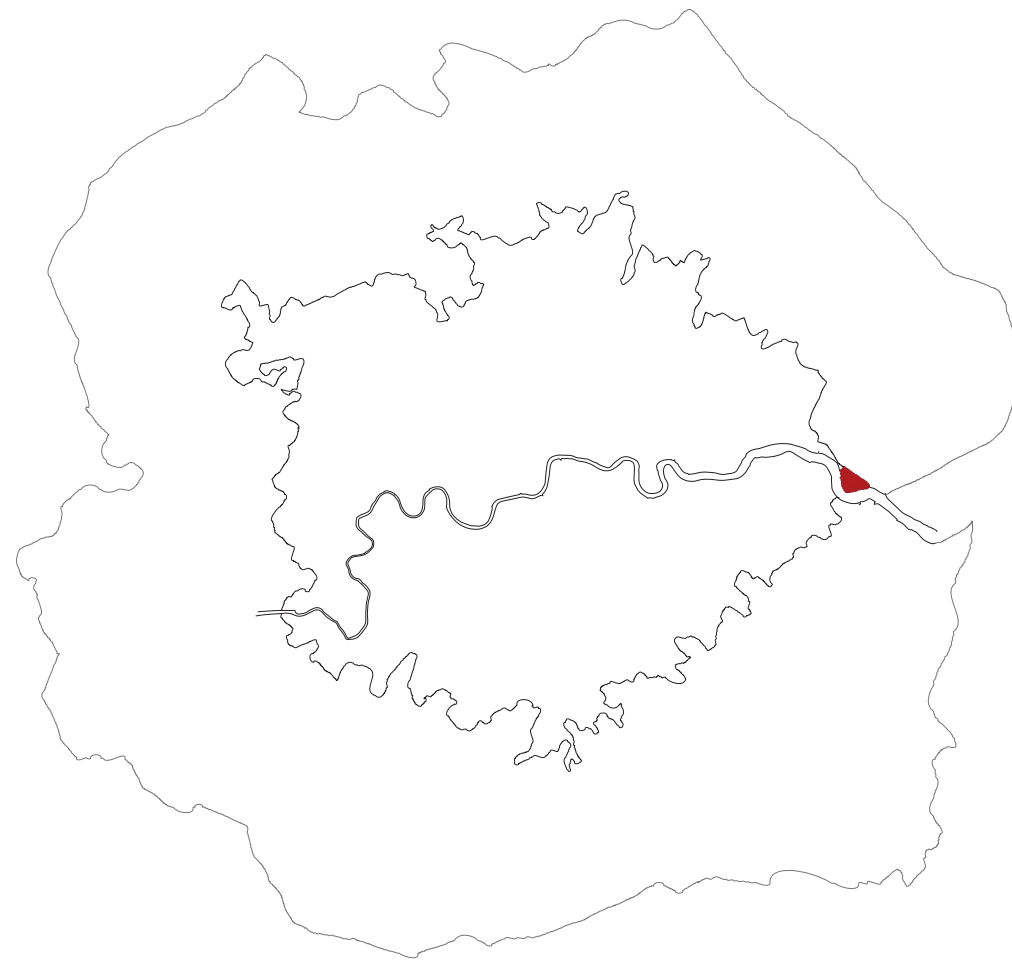
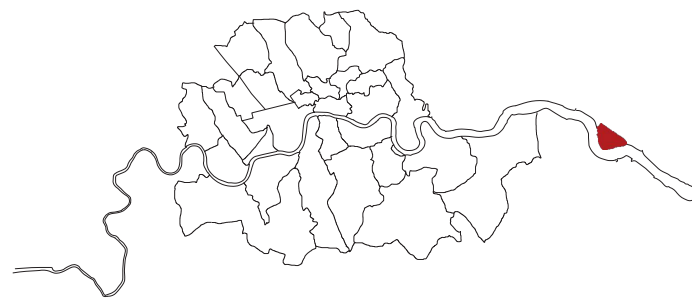


Rainham Landfill 1890



Rainham Landfill 1960

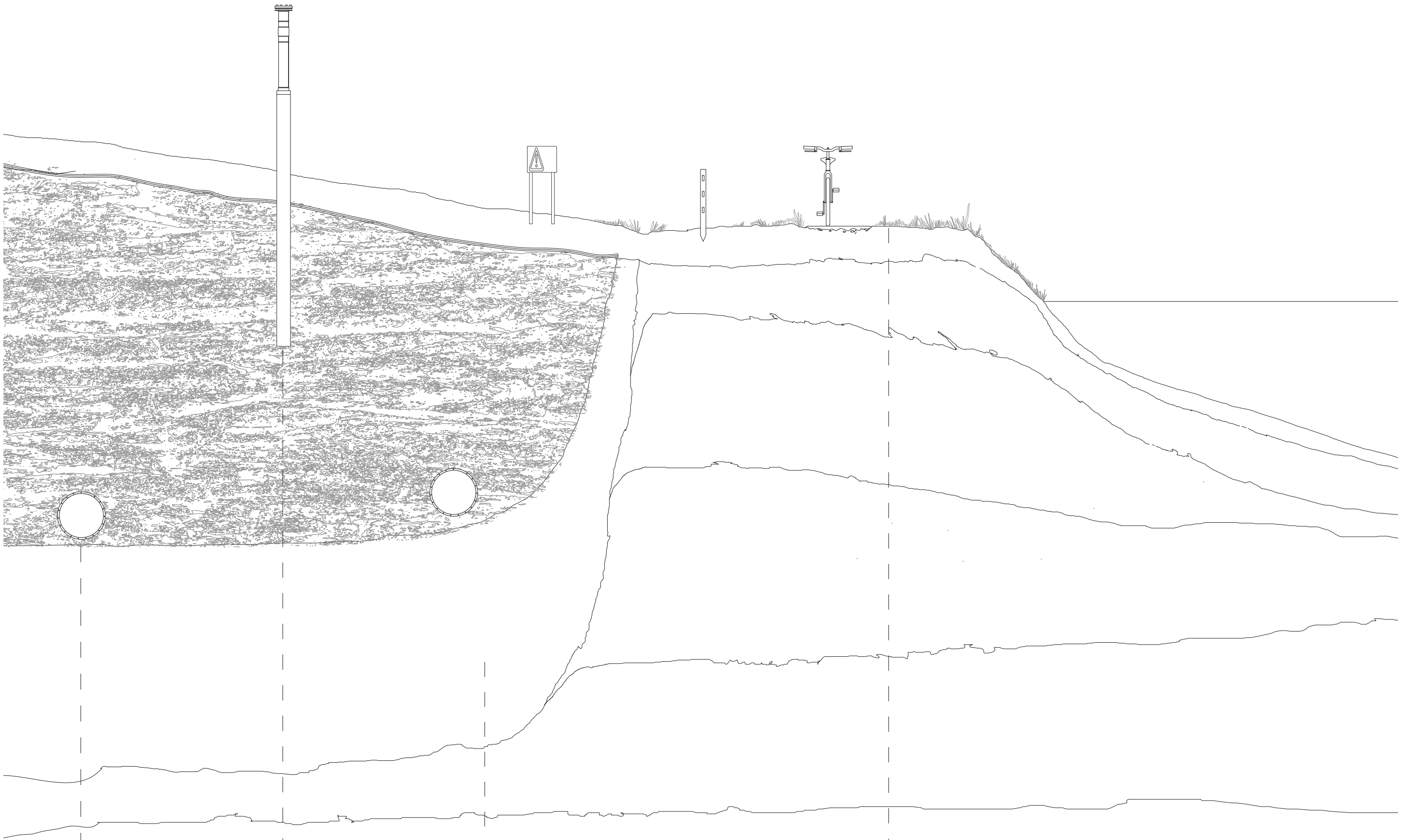




“In Ecological Awareness, “Away” has disappeared [...] we know our waste doesn't go to some special place called ‘Away’ it just goes some place else. If there is no *away*, then there is no *here*. **We have lost reality.**” <sup>1</sup>

From Periphery to Focus: 1:50,000 plans of London: 1890, 1920, 1960, 2019  
 London began dumping in Rainham because it was Away from London, in the periphery. As London has grown, our awareness of this “out of sight, out of mind” attitude has also grown. Rainham Landfill is now hoped to be the grand finale of the London Riverside Project; **The Landfill has gone from being an unfortunate necessity to a focus point.**

1: Timothy Morton, Being Ecological, Penguin 2017, p189

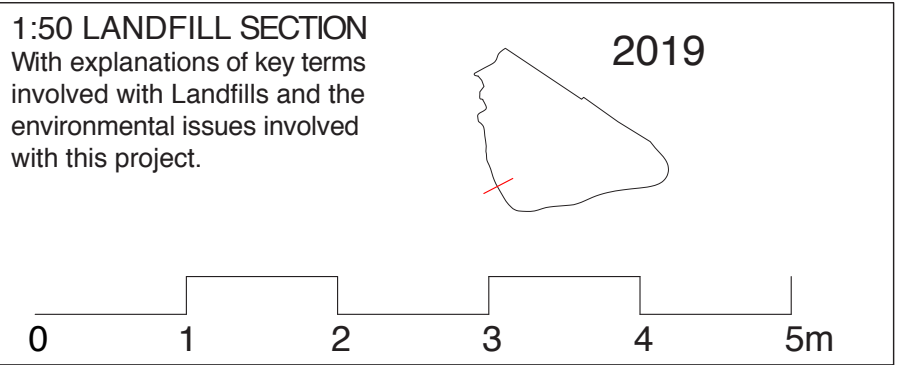


**LEACHATE**  
Liquid that accumulates in the bottom of Landfills -water olluted with toxic liquids and heavy metals. Regulated by pumping and "Attenuation".  
**Leachate highly dangerous for the environment.**

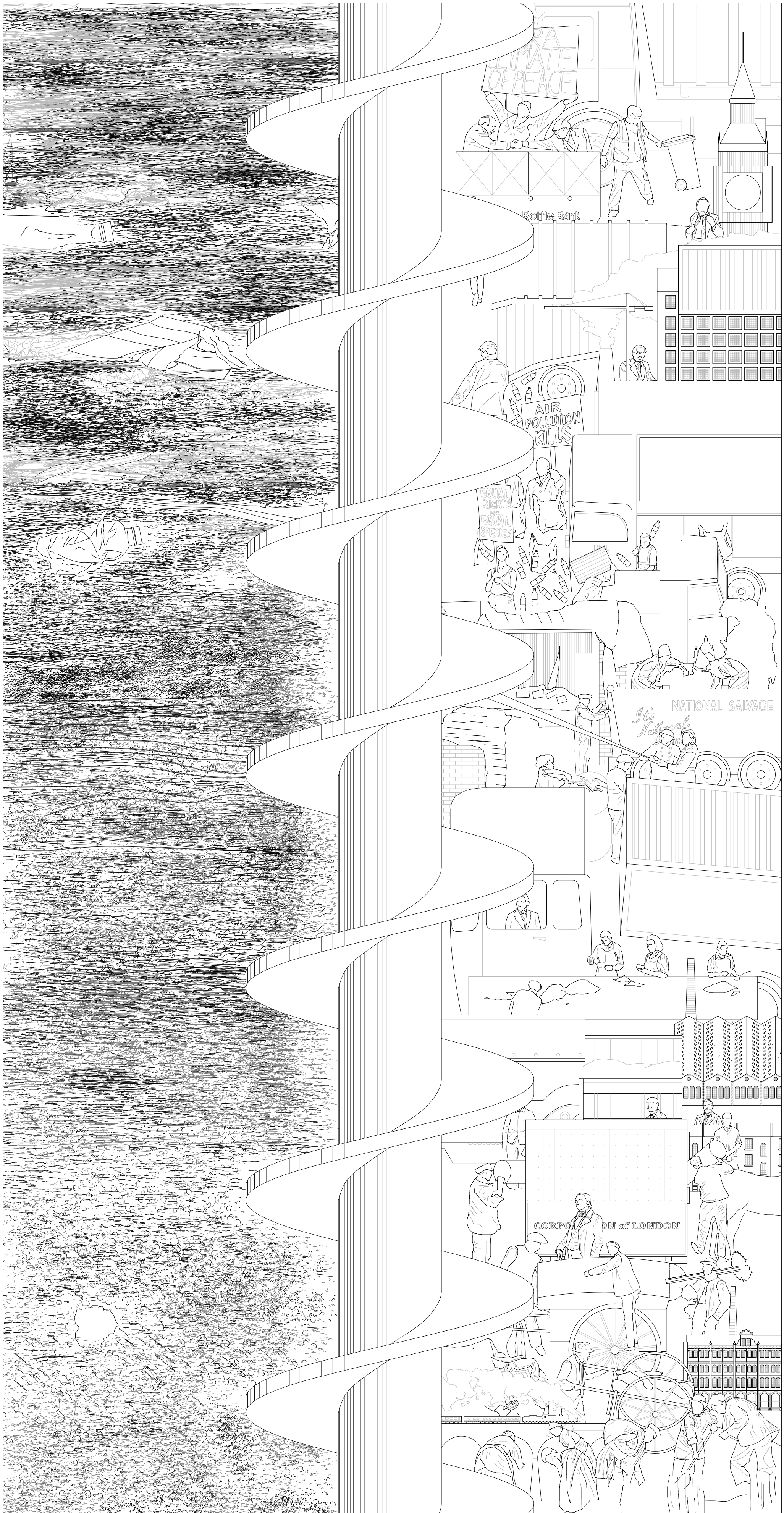
**METHANE**  
 $\text{CH}_4$  That is produced by Bacteria and Archea in the Landfill. These Microbes help break down waste and respire Methane as a by-product.  
**Methane from Landfill goes on to contribute to global warming.**

**ATTENUATION**  
A Victorian model of Leachate management, where the Toxic Water filters through blue clay and diffuses into the Environment.  
**Attenuation leads to Leachate polluting into the water table and nearby rivers**

**FLOODPLAIN**  
Areas adjacent to Rivers which water disperes unto at times of flooding.  
**Many landfills are built on former floodplains, meaning that when flooding occurs, the riverwater flows ontop of the rubbish mounds, punctures the lining and absorbs pollution.**





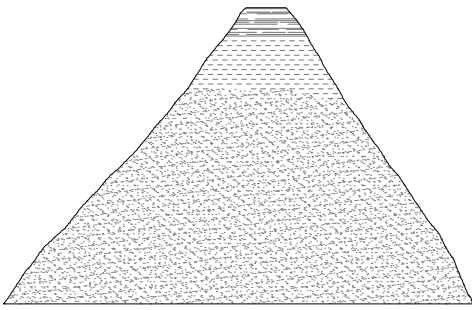
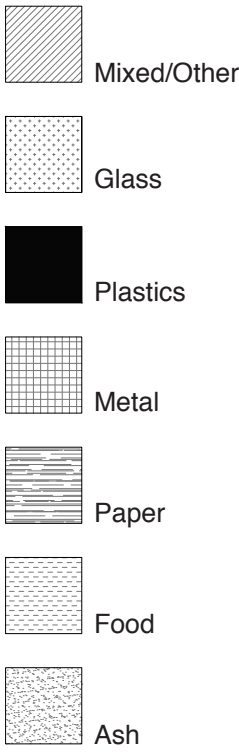


**RAINHAM LANDFILL IS AN ACCIDENTAL ARCHIVE**

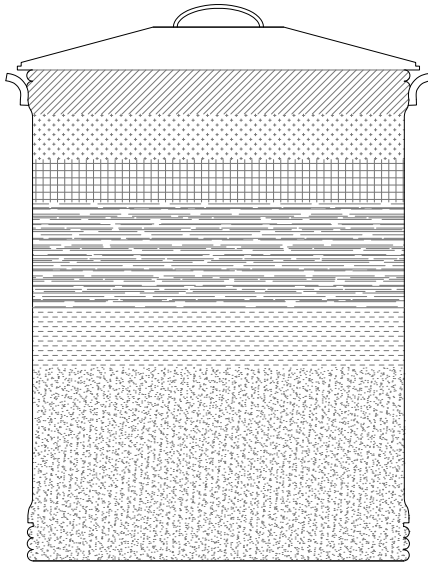
Layer by layer it shows how we've viewed objects, how we've treated nature, and how we've seen ourselves.

mixed section: 1:5 Landfill and Auger, 1:50 people and things, 1:500 buildings (from historical imagery/ portraits of notable waste managers)

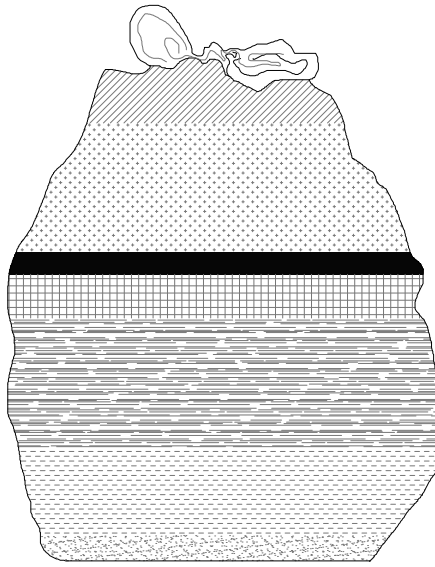




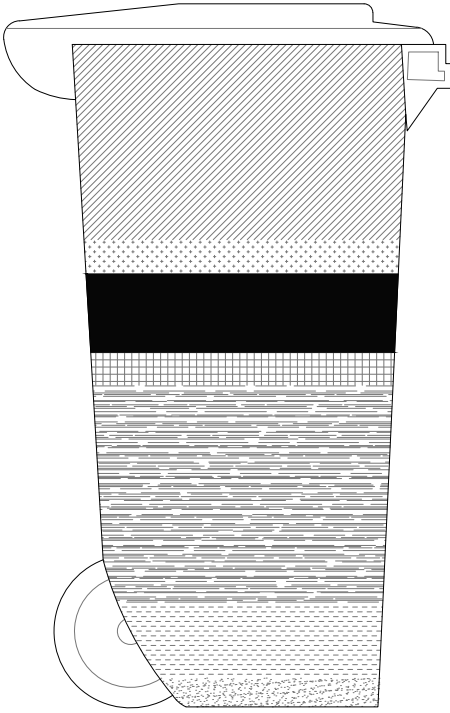
1901



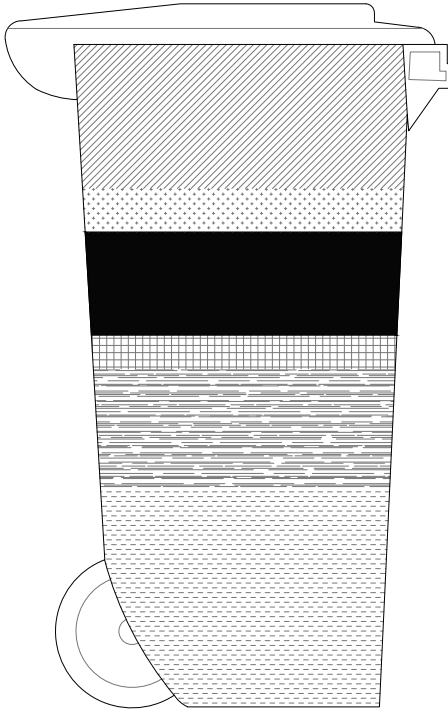
1939



1971



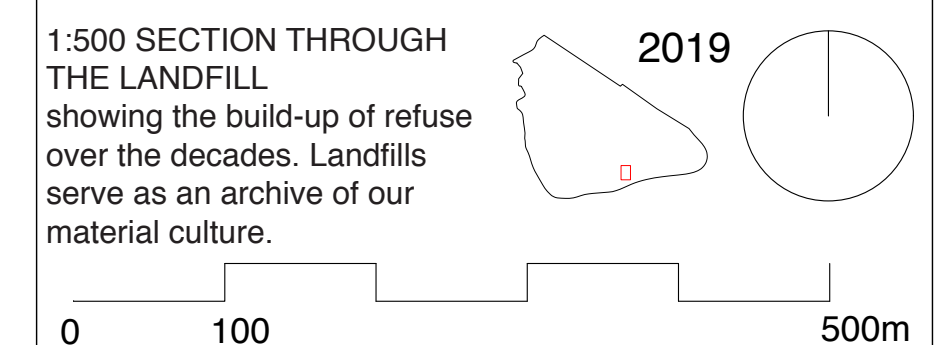
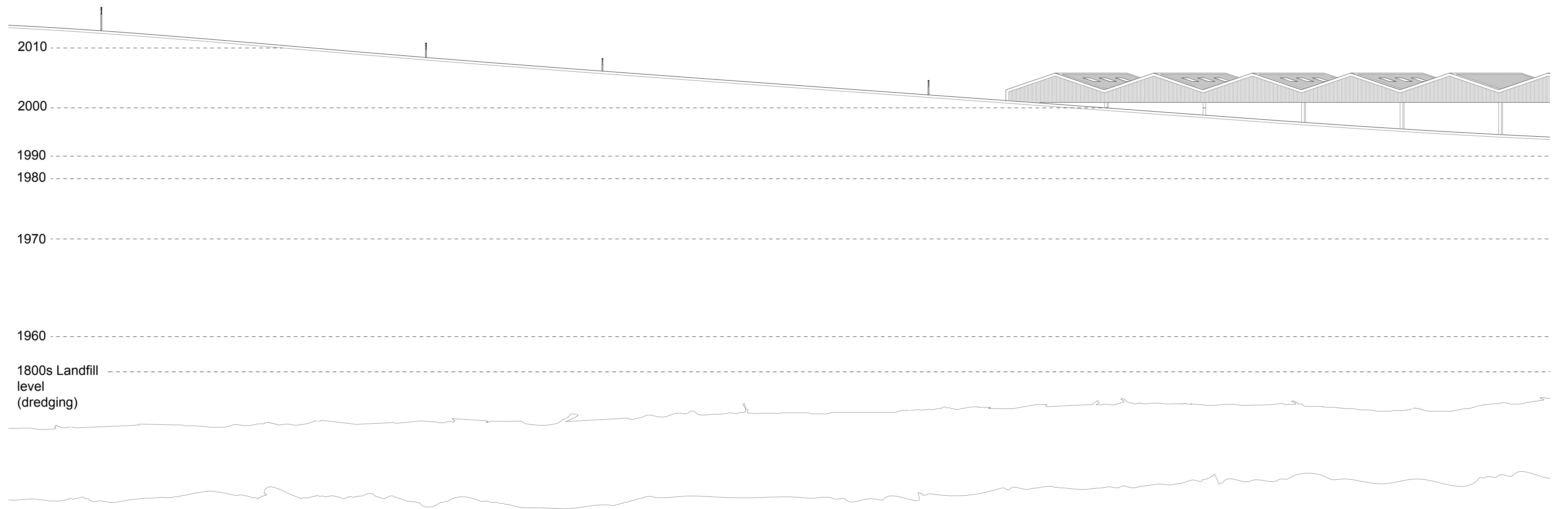
1989



2010

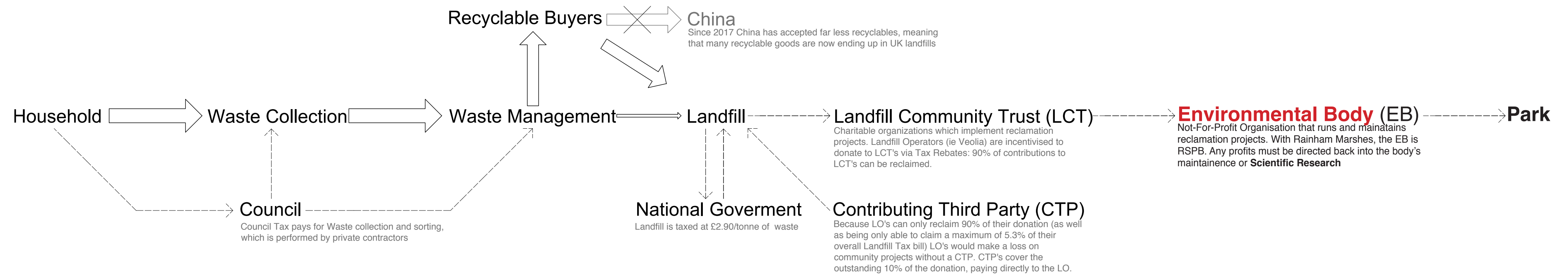
Sources:  
Frank Trentmann, Empire of Things, 2016  
[https://www.london.gov.uk/sites/default/files/municipal\\_waste\\_final.pdf](https://www.london.gov.uk/sites/default/files/municipal_waste_final.pdf)

**UK WASTE THROUGH HISTORY**  
The different composition of waste though the last century means that the layers of Landfill vary through time (depth) too

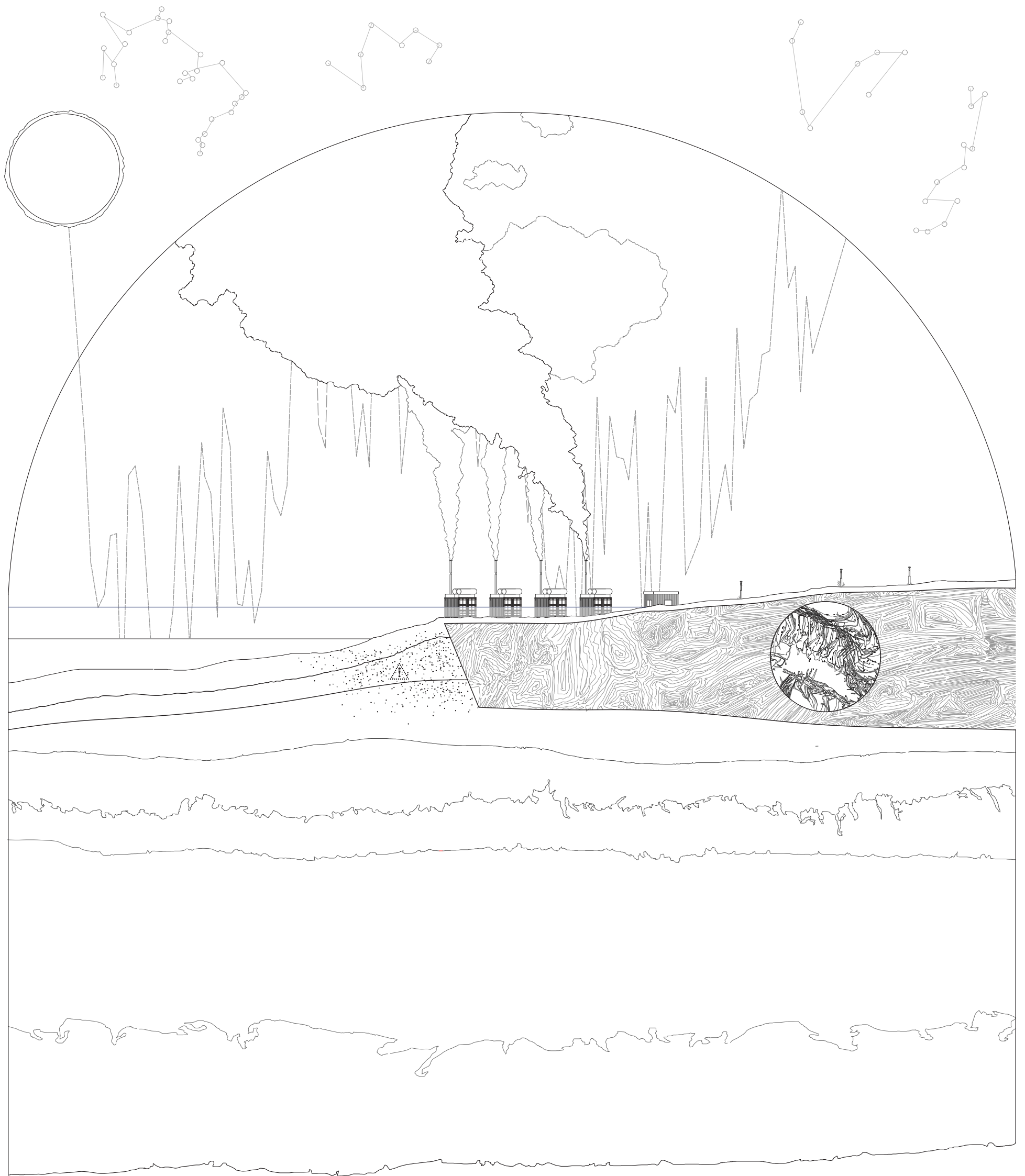


**“Restore previous mineral extractions and landfill sites with an accessible landscape structure of woods and hedgerows, for instance at Rainham’s landfill site when this becomes inactive.”**

Objective of the London Riverside Project, 2018







**THE ISSUES INVOLVED**  
mixed-scale section highlighting the issues  
wrapped up in Veolia Rainham Landfill  
Landfill 1:500  
Earth's radius 1:50000000  
Sun's Radius 1:500000000000





An idyllic post-landfill Landscape



**The side effects of the idyllic**

Current UK Landfill reclamation projects concentrate largely on picturesque aesthetics rather than dealing with what is beneath the surface. This comes back with a vengeance in the form of water contamination.





—English Oak  
Historic Naval supply, helps absorb some acidity from the soil.

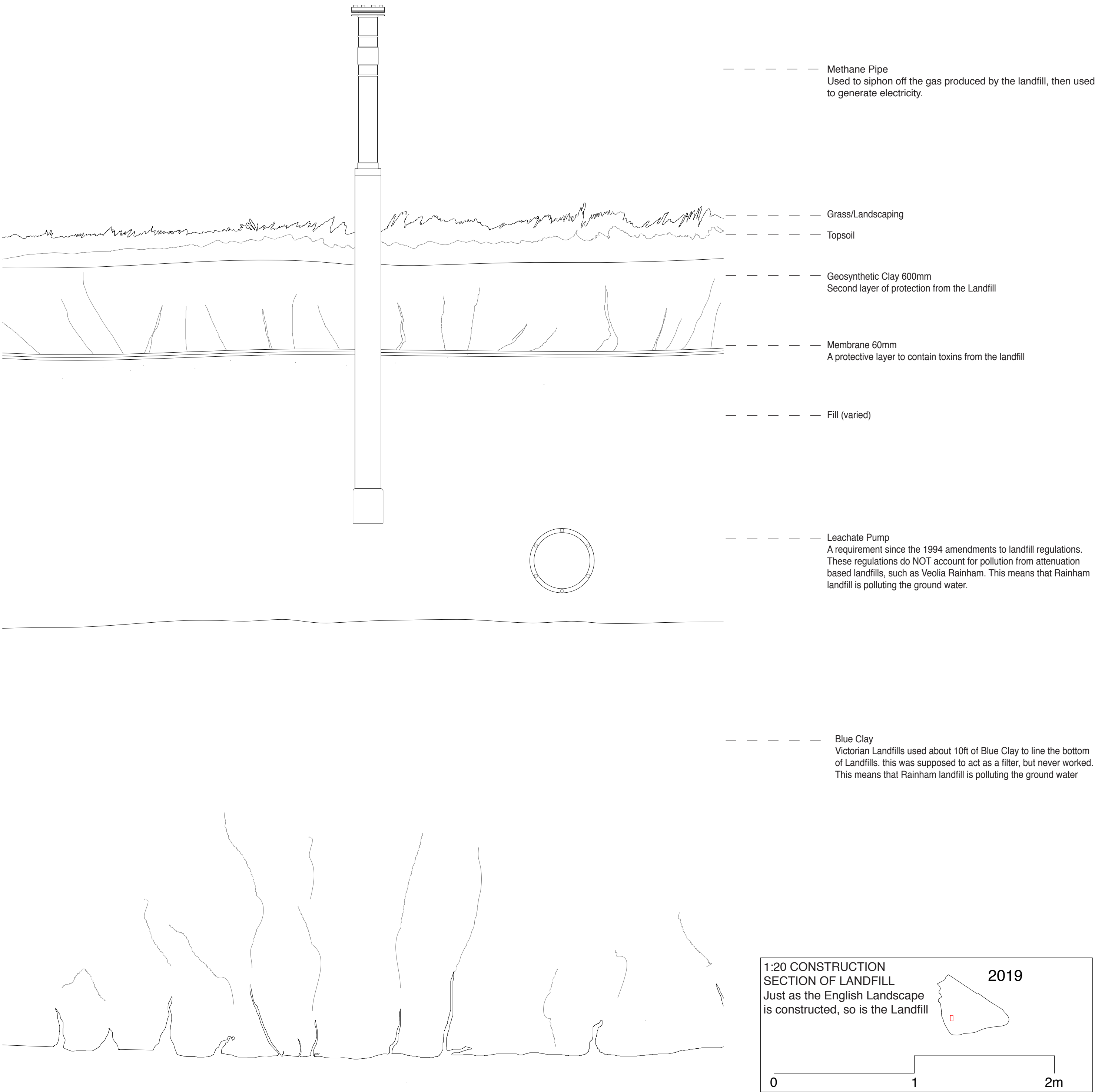
—Sheep  
Incentivised by EU policy: Farmers are payed to raise Sheep to “keep out unwanted plant-life” Depleting Biodiversity and leading farmers to deforest land for grazing

—Hedgerow  
Private property border, used since the Enclosure Act 1604 (to keep surfs out)

—Grass  
Used to signify affluence (a non-edible crop taking up vast land) as well as grazing for Sheep- leads to acidic droppings which kill off other plants

—Roots  
Strengthens loose soil and clay

A CONSTRUCTION OF THE ENGLISH LANDSCAPE  
1:20 Construction section  
What we take as “natural” in the English landscape is a contrived version of nature, based on Picturesque ideals and politics from early Modernity. To re-purpose a landfill along these lines is wholly insincere, and is far from the most “natural” approach.  
Source: George Monbiot, Feral, Penguin, 2014









- Public land
- Publicly accessible land
- Private domestic land
- Private industrial land
- Roadside curbs
- Landfill

**PUBLIC AND PRIVATE GROUND**  
1:5000 Plan  
applying the logic of Office building in Liestal to Rainham at large. Rainham is divided sharply into public and private spaces. The new Landfill park seeks to address this.



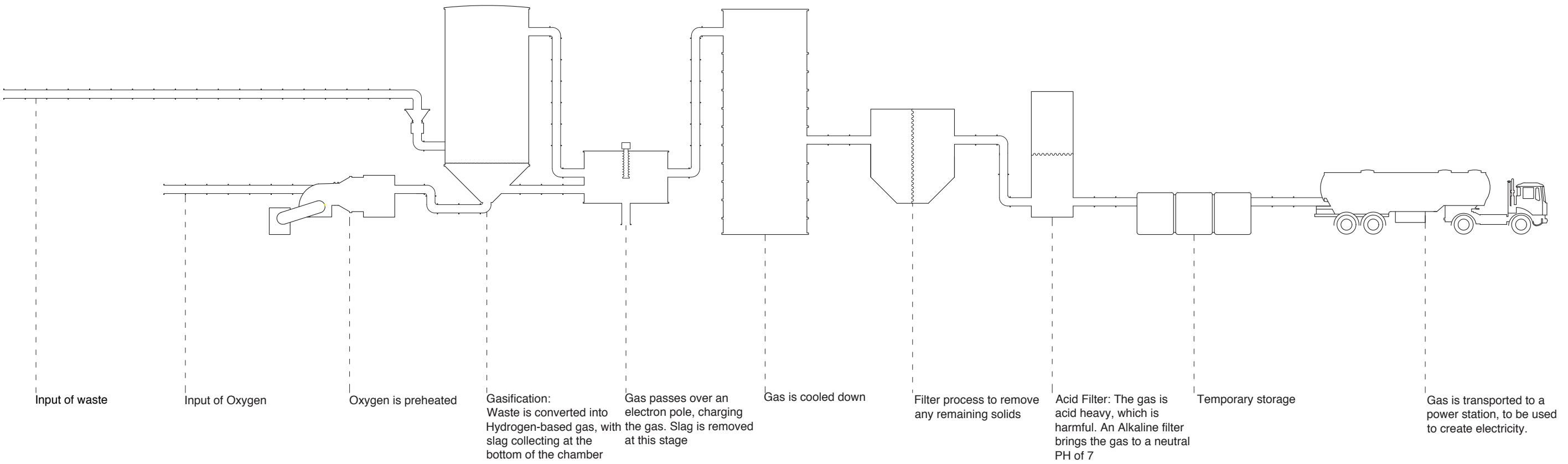




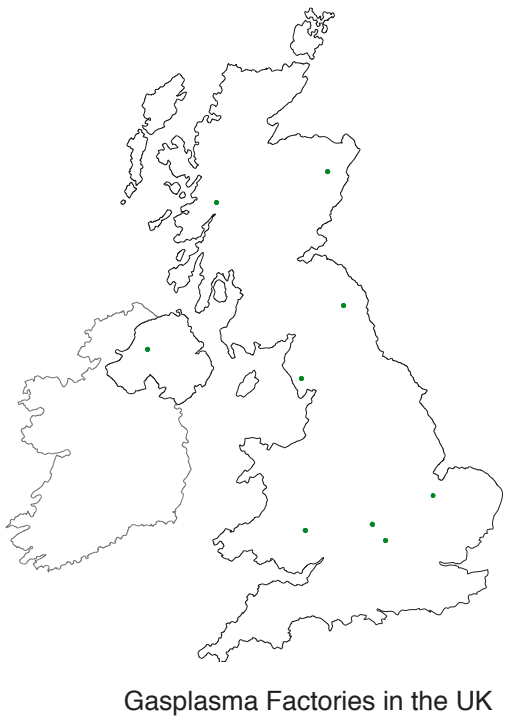
**“In Ecological awareness,  
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Tim Morton, *Being Ecological*, 2017

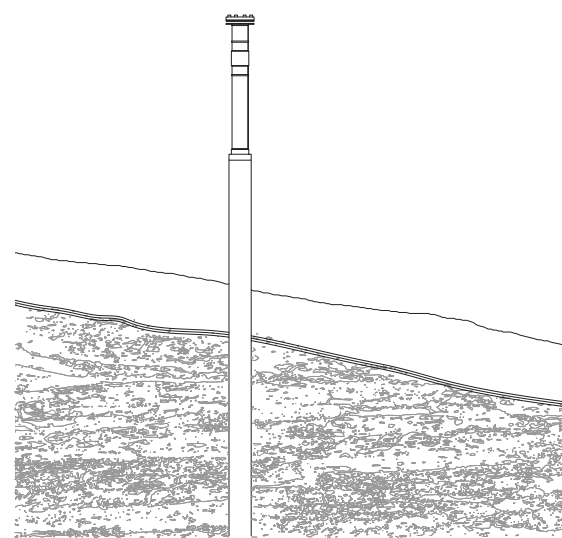




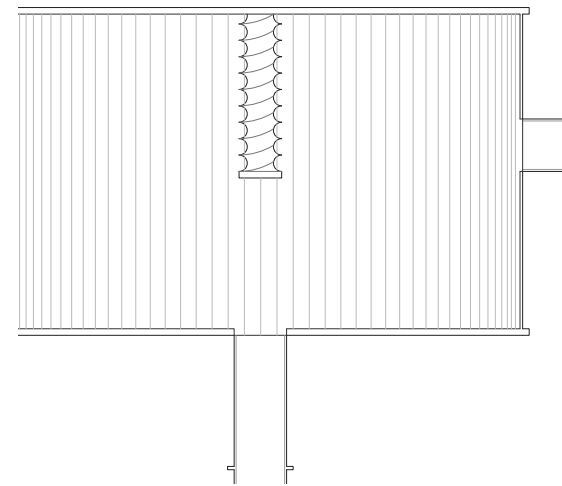
A diagram of the Gasplasma process, showing the conversion of waste to fuel and aggregate.



Gasplasma Factories in the UK



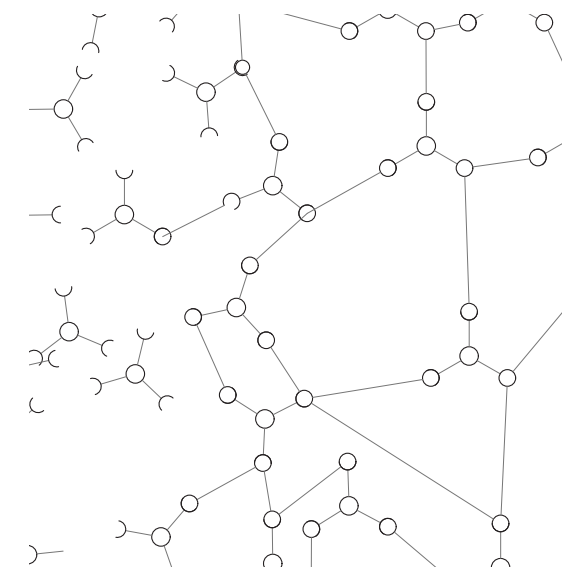
Excavation of Landfill



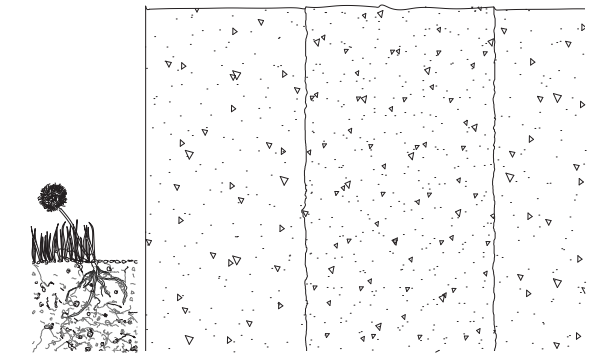
Conversion of Landfill into Gasplasma and Plasmarok



Plasmarok is processed to optimum size for concrete

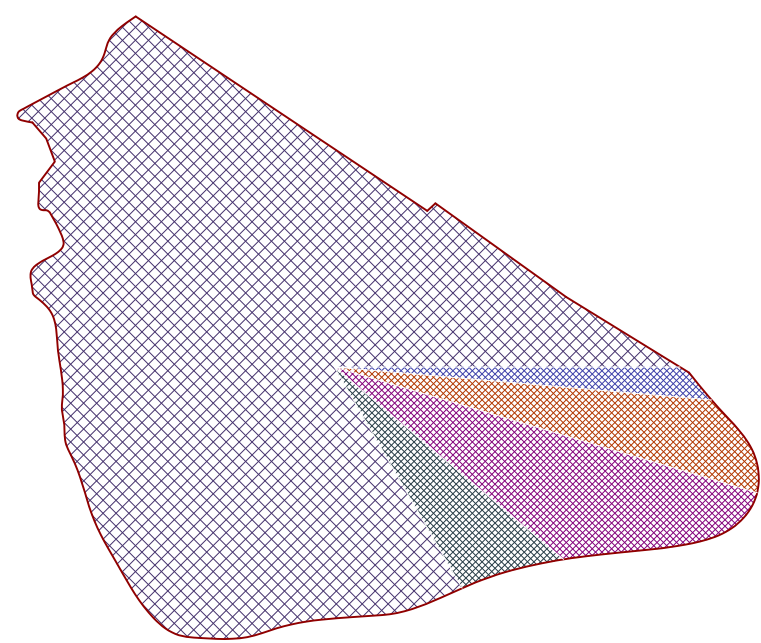


Polymerization and hardening of Plasmarok aggregate and Cement

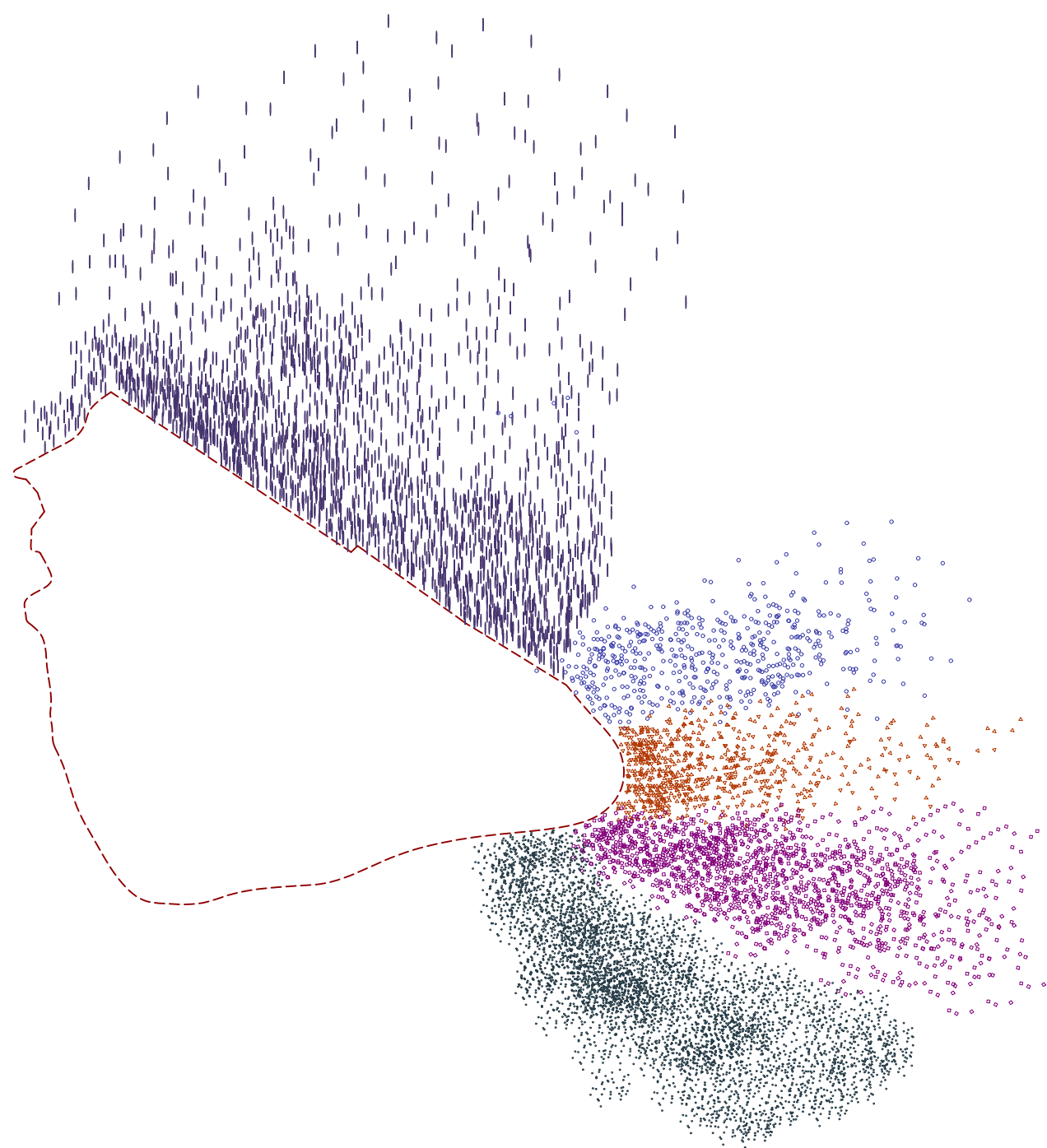


Concrete containing Plasmarok is poured, requiring a longer curing time than typical concrete

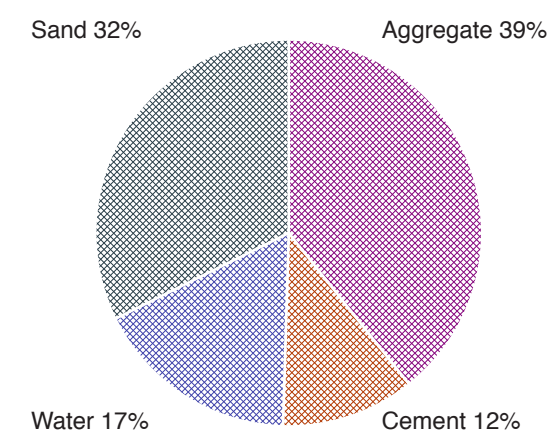
**FROM WASTE TO CONCRETE**  
 Outlining how Landfill can be used to create concrete.  
 Because the process uses landfill which would emit Co2 if left alone, the process considerably offsets potential Carbon Dioxide emittance



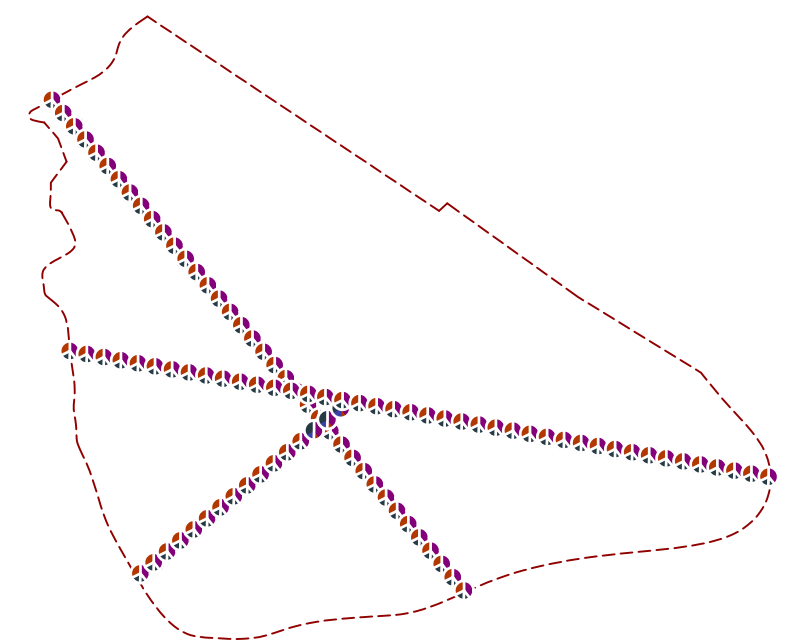
Landfill is closed and materials are gradually excavated, leaving areas to cast concrete against



Materials separated for gas and concrete



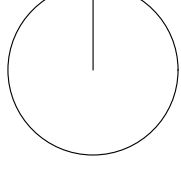
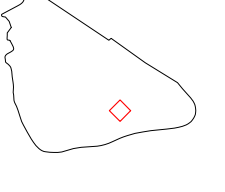
Landfill materials converted into concrete mixture and powered by Gasplasma



Concrete poured into new walkways



GROUND MANIPULATION  
Maquette exploring how to  
create a landscape that is vis-  
ibly manipulated by humans



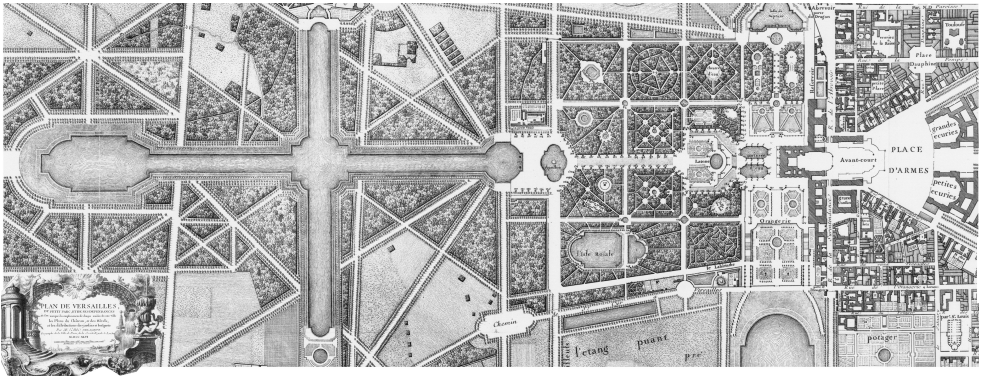
0 1 2 3 4 5m

**GOLDMINE PLAN (1:5000 using gold leaf)**





VERSAILLES ON A LANDFILL ? 1:5000 model

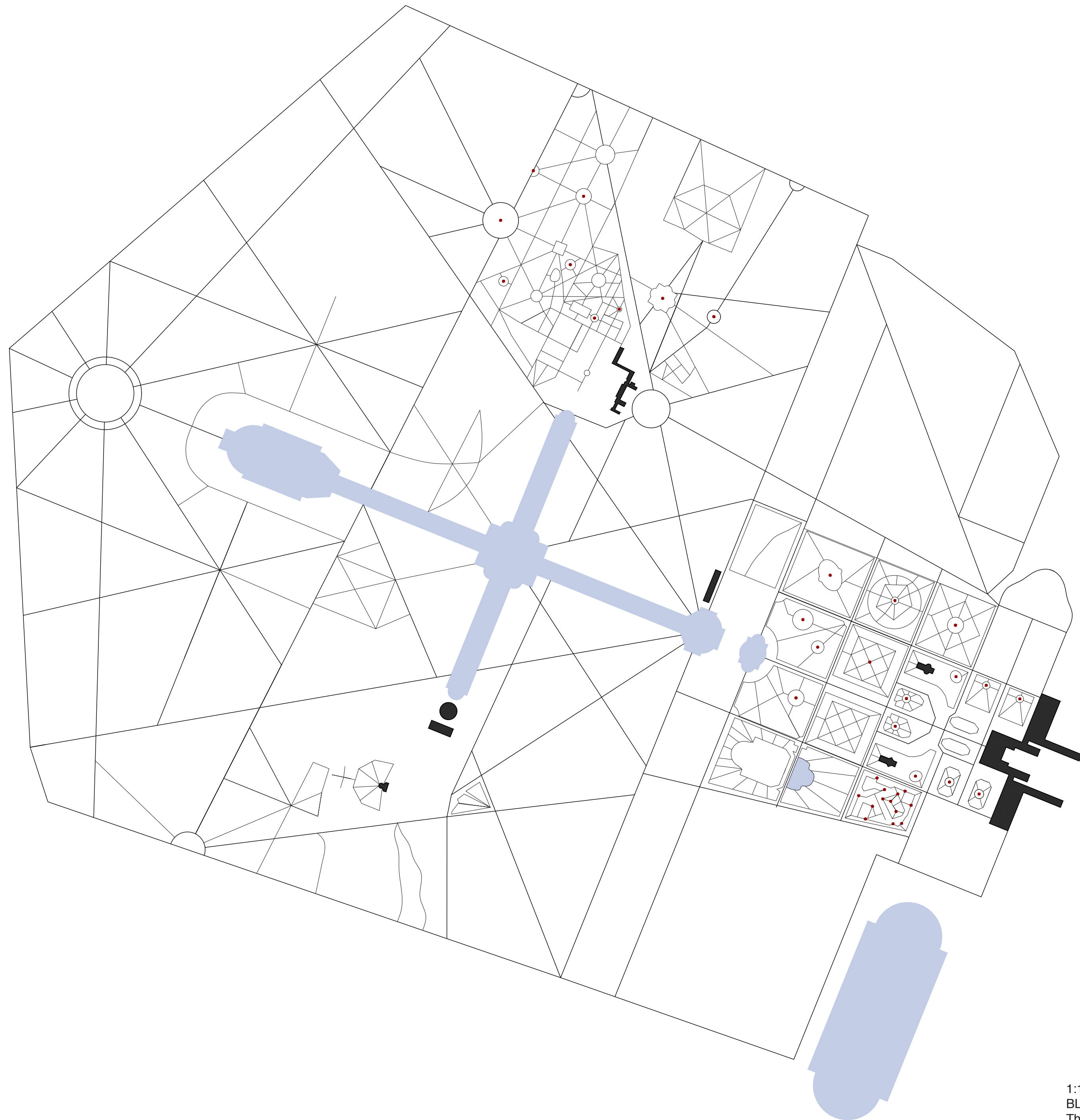


“Not only space, but time itself, as represented by the growing and ever changing plant material, seemed to be fixed and held in suspension by the overwhelming authority of the king and his garden agents. Beneath the hard edged reductive perfection of ruthlessly shaped and controlled trees and bushes, one can sense an abstract, almost brutal love of power, which, of course, was the chief characteristic of the age” Adams, The French Garden

Versailles is ordered and blatant in its construction, designed to be the center of the world. It is the antithesis of the current failing landfill policies.

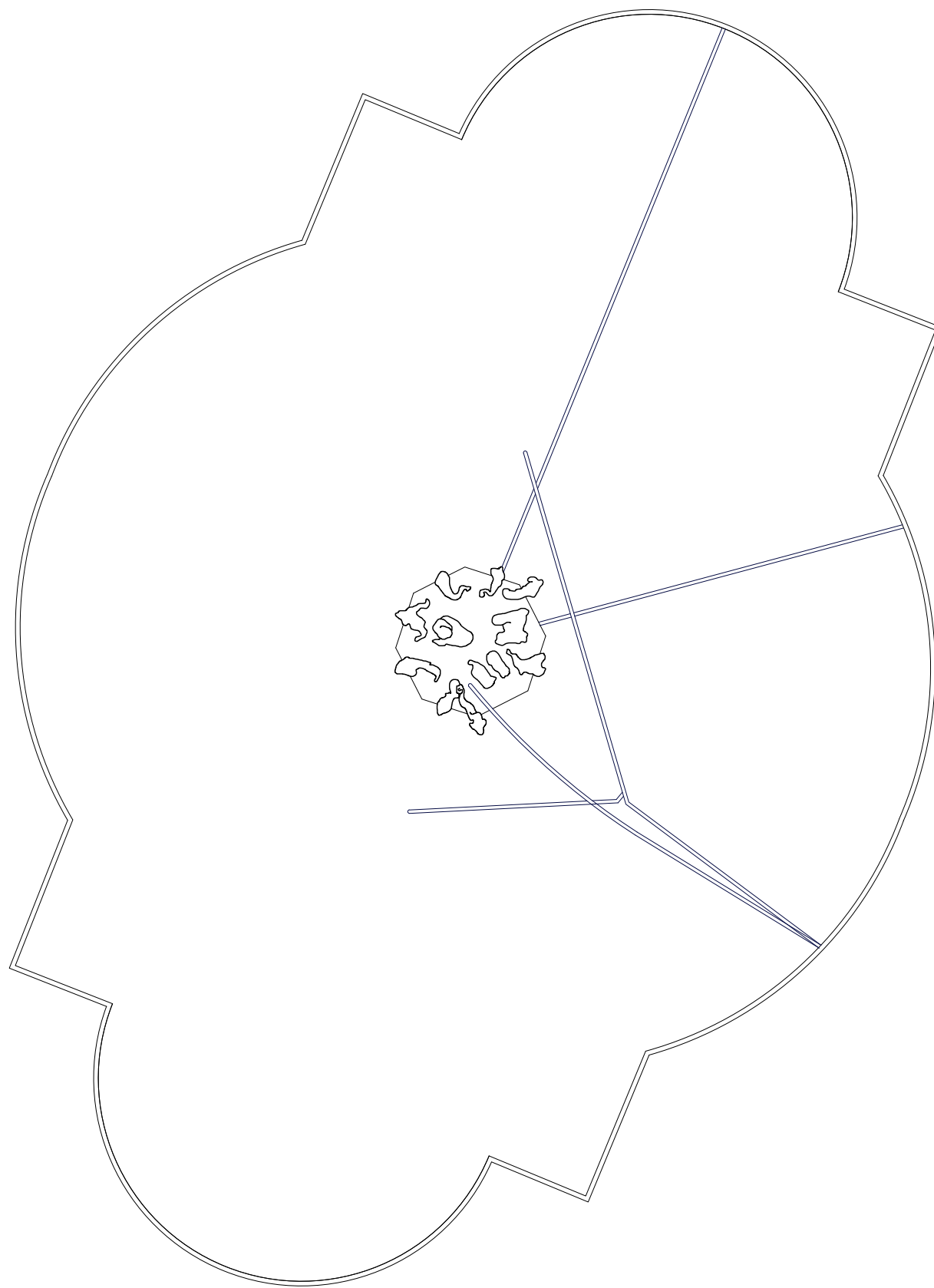
The solution for how we treat Landfill reclamation lies in Versailles.



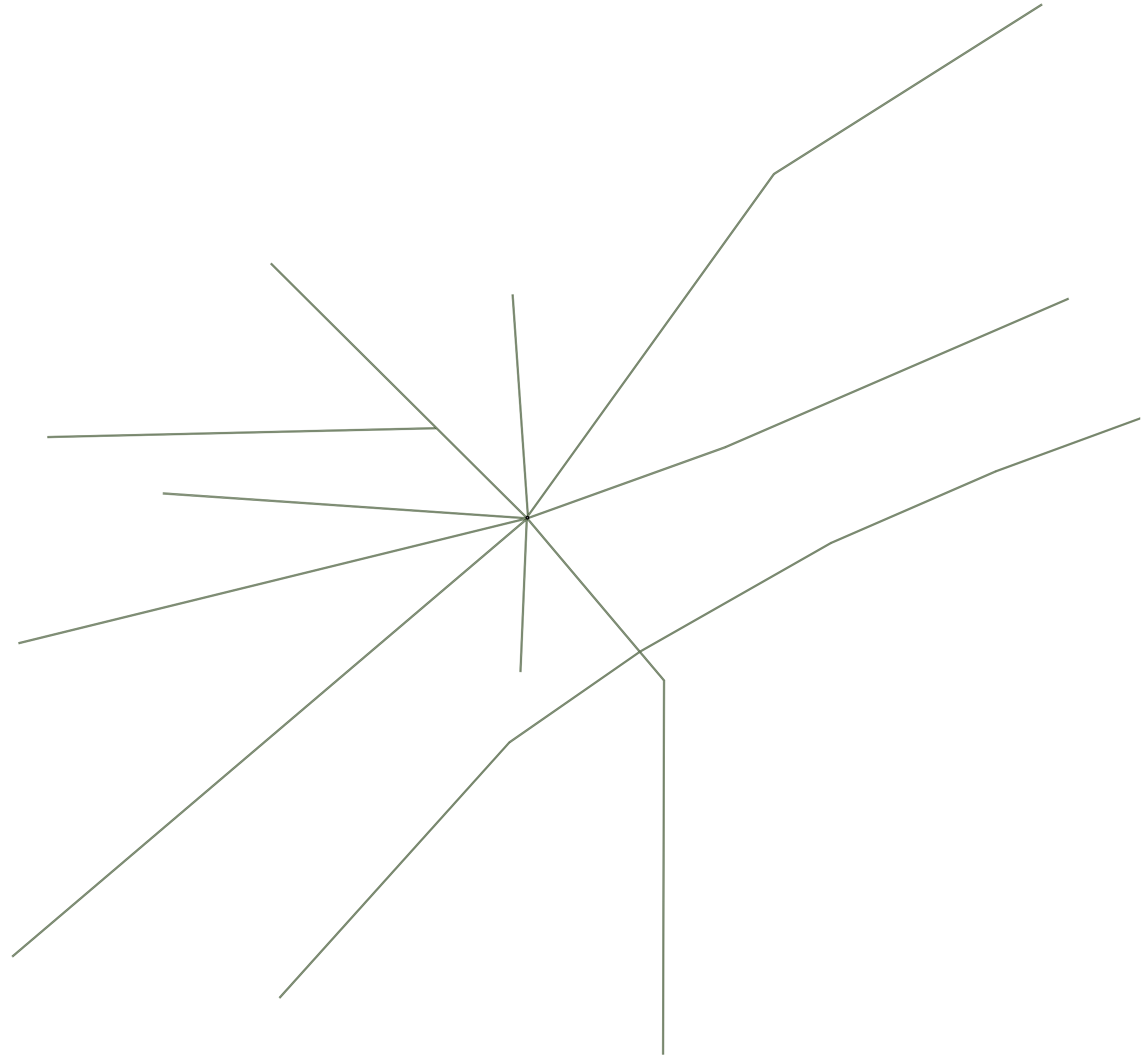


1:10000 plan of Versailles / Landfill in plan.  
BLACK: building RED: fountain BLUE: water  
The gardens have a series of primary axial lines,  
and an assortment of more varied walkways





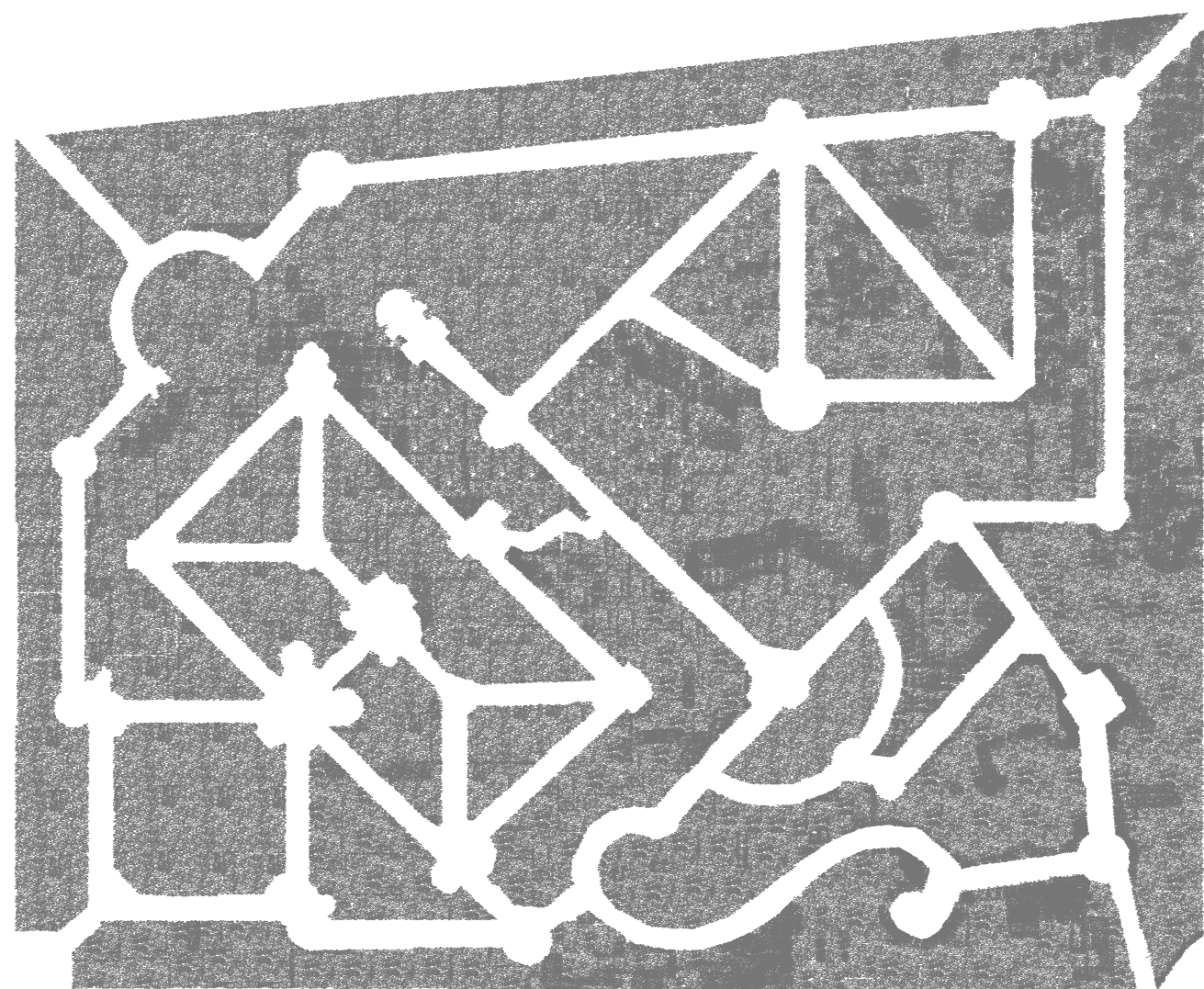
The waterpipes feeding Bassin d'Apollo



The pipes feeding a methane outlet on Rainham Landfill







1:500 plan of the Labyrinth at Versailles



1:1000 plan of the paths and roads on the landfill





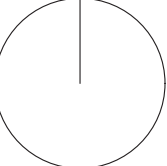
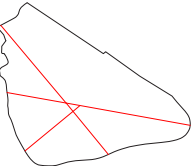


1:5000 PROPOSAL PLAN

Excavating the Landfill and converting the waste into Gas-plasma

constructing concrete walkways out of the Plasmarok aggregate

Using the site as a temporary landfill before converting more waste into Gas-plasma

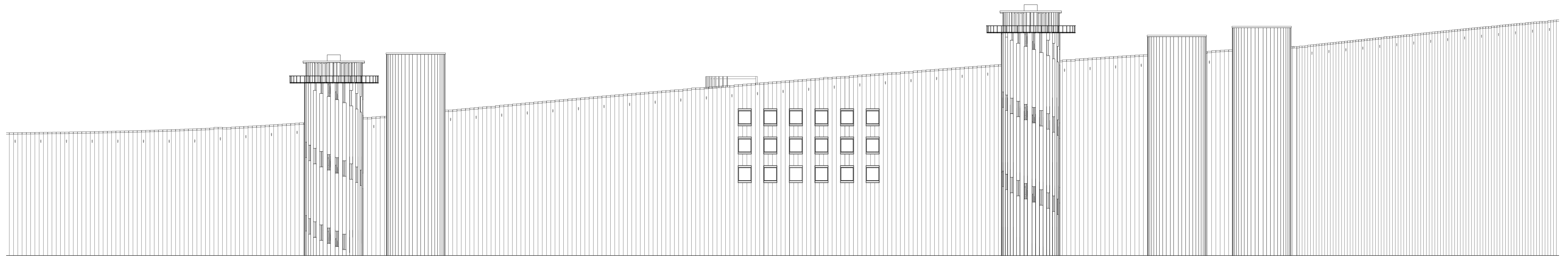


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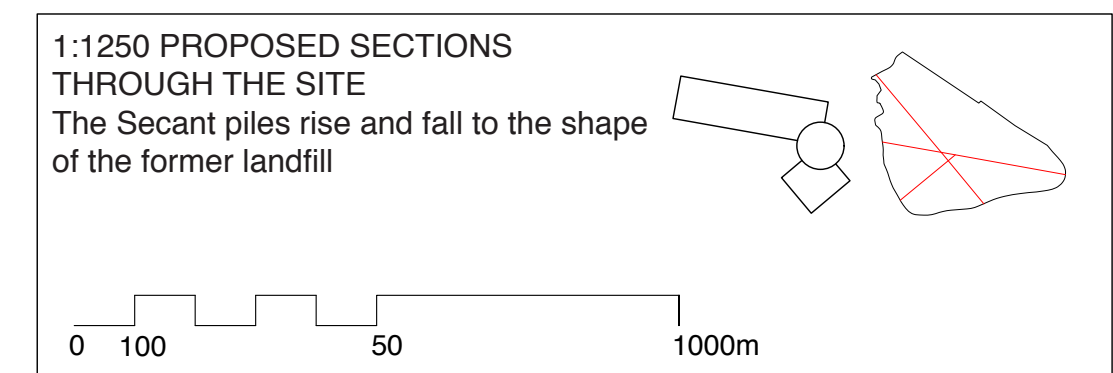
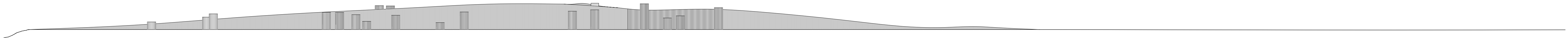
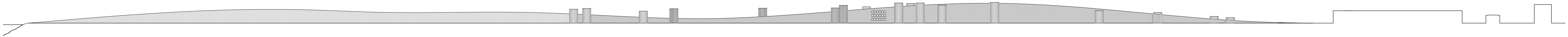
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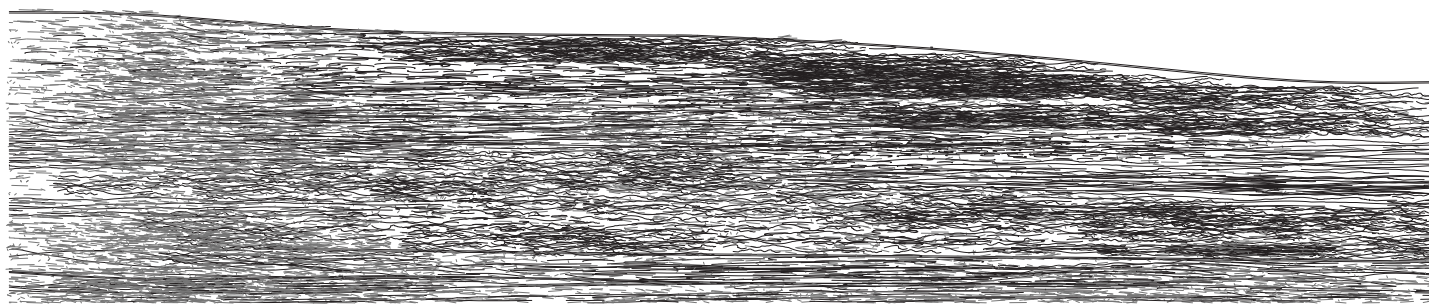
500m



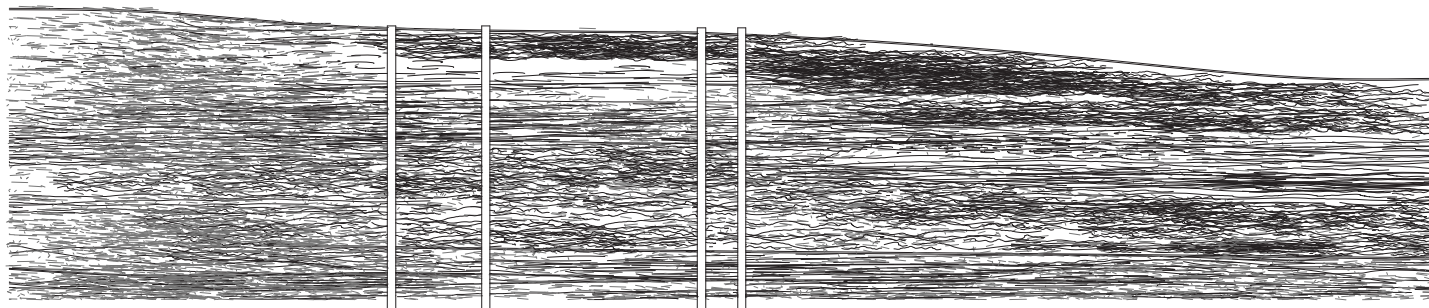
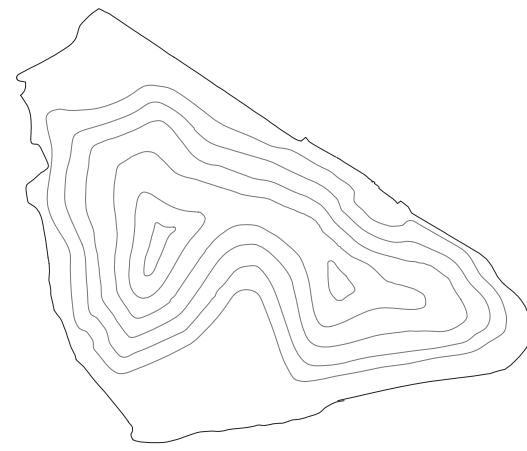




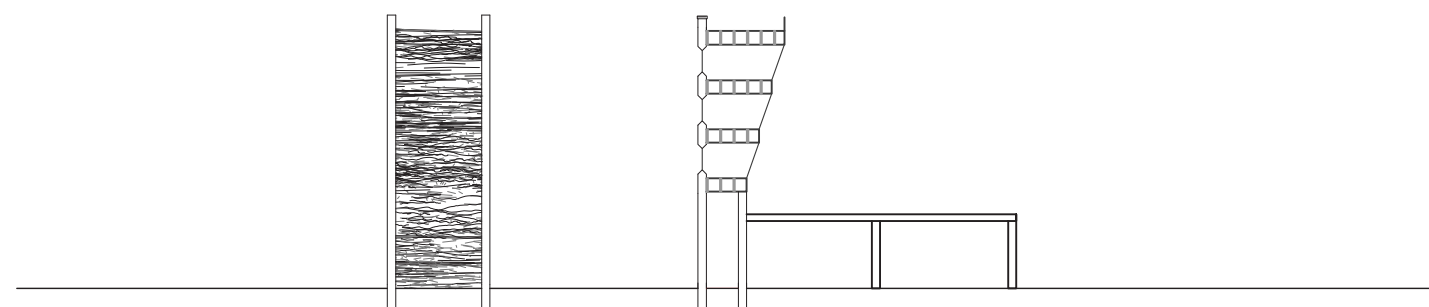
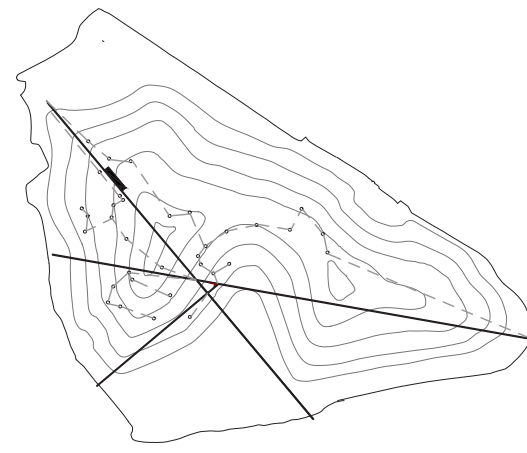




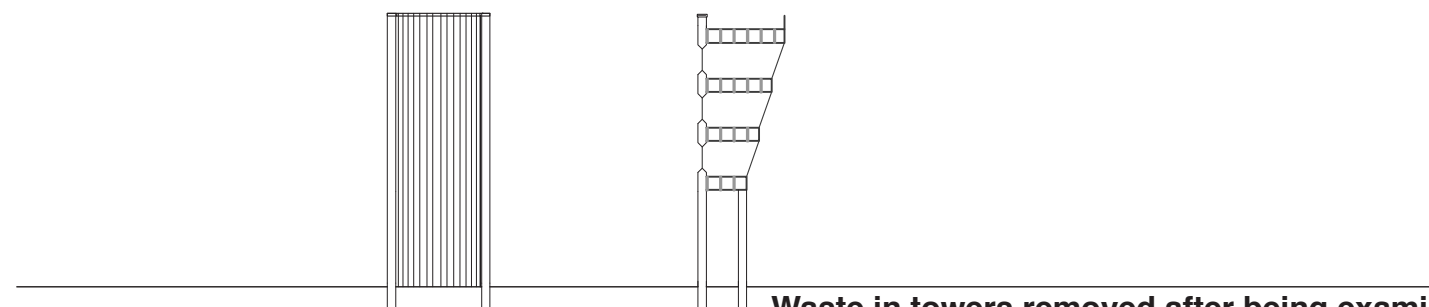
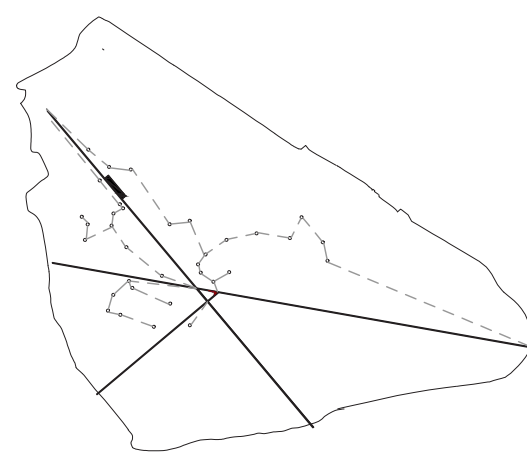
2024: Landfill closes



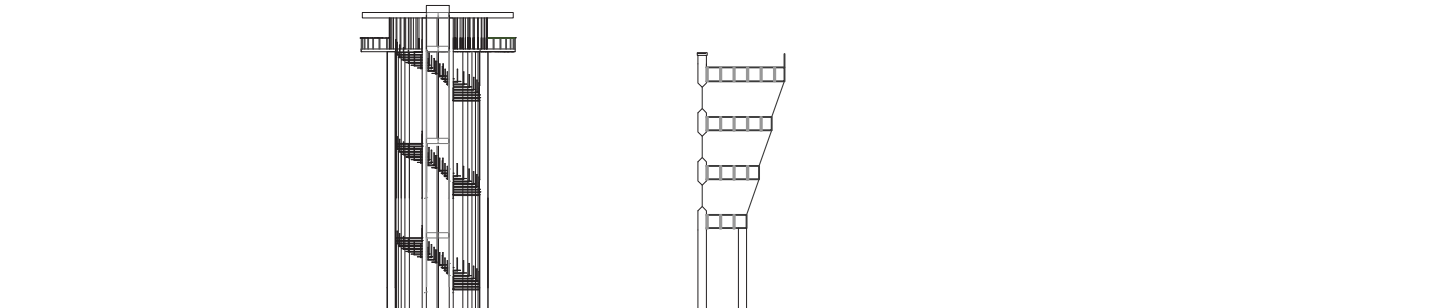
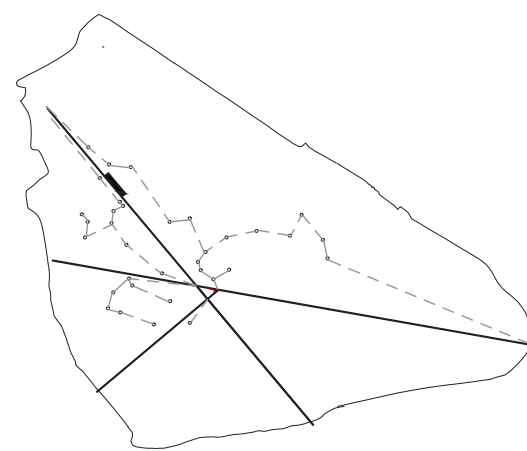
Piles cast



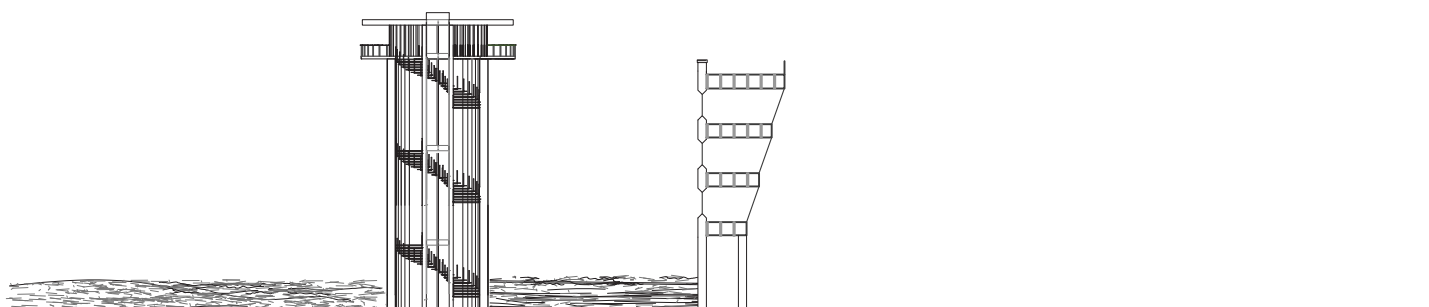
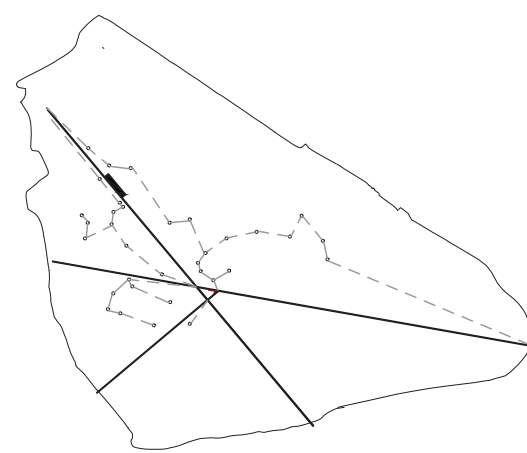
Landfill excavated: waste within towers is kept as samples. Factory and Laboratory are constructed.



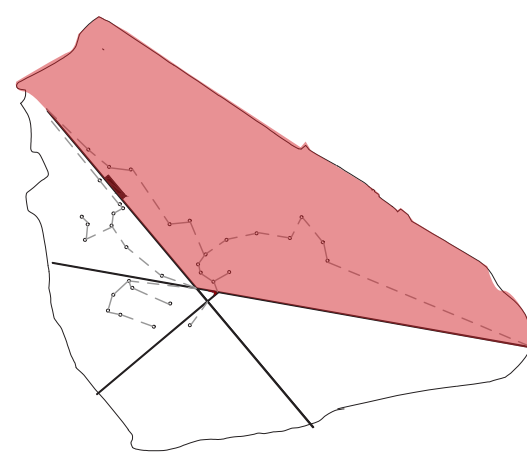
Waste in towers removed after being examined in the laboratory.

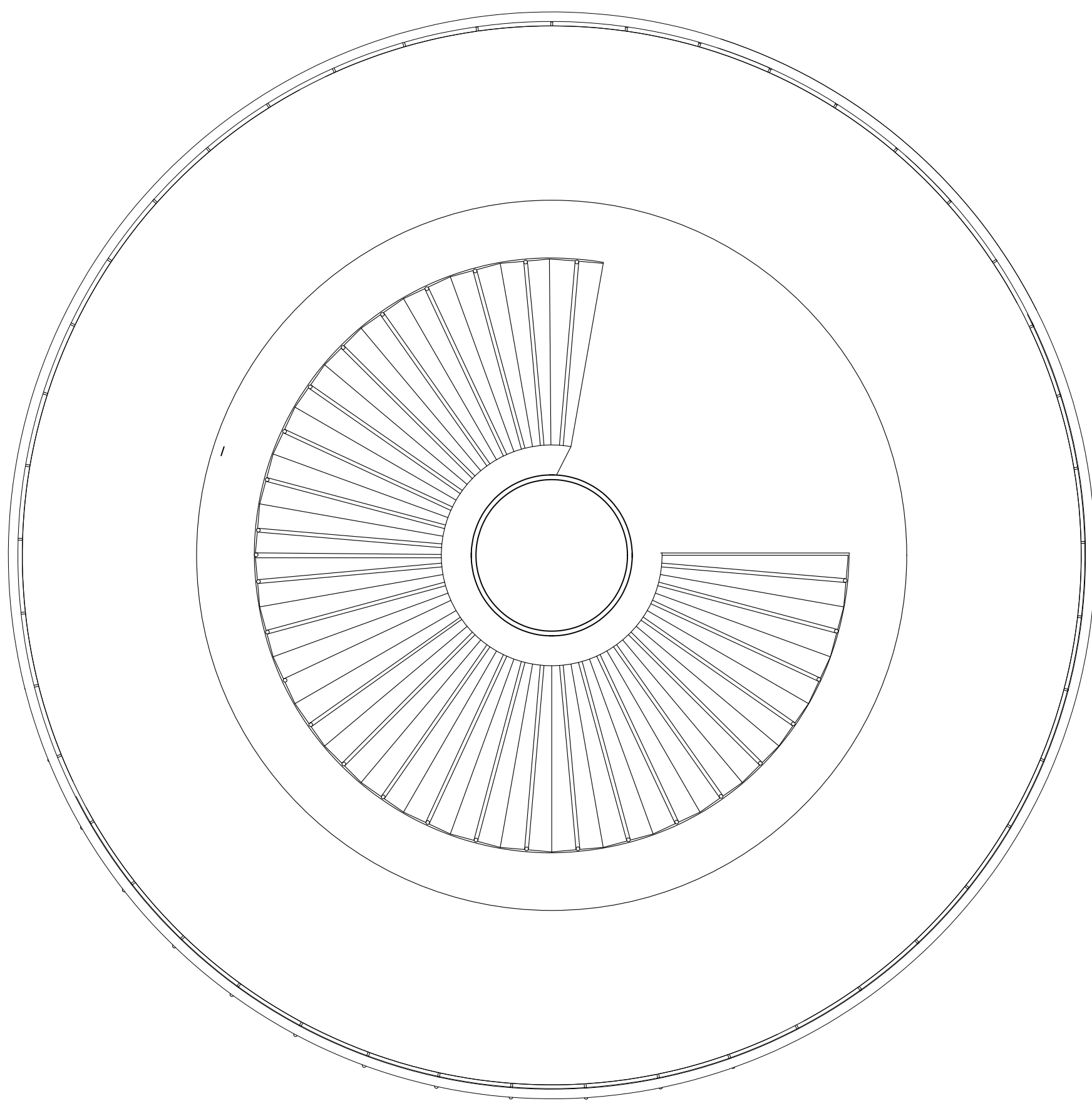
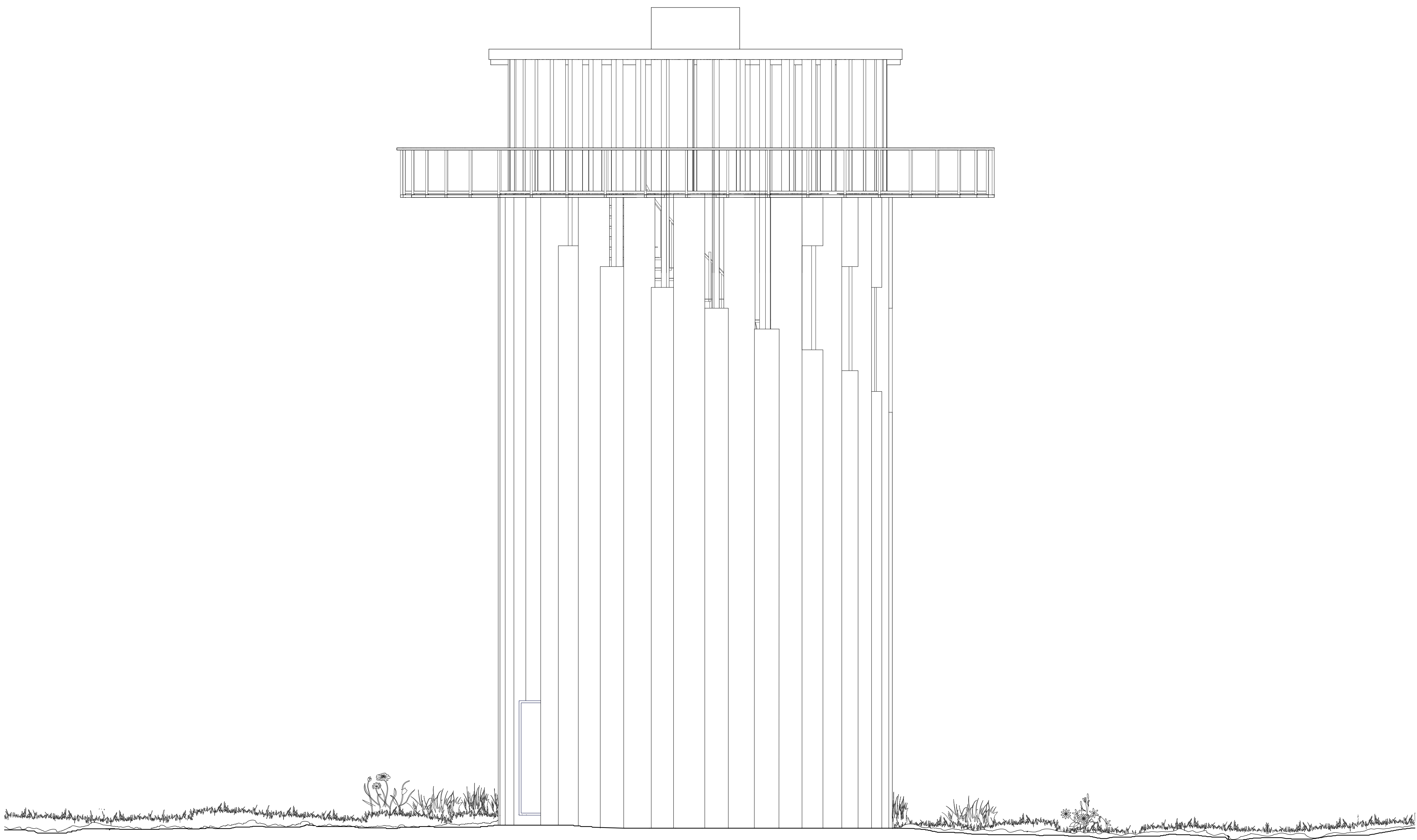


Towers converted into viewing platforms.

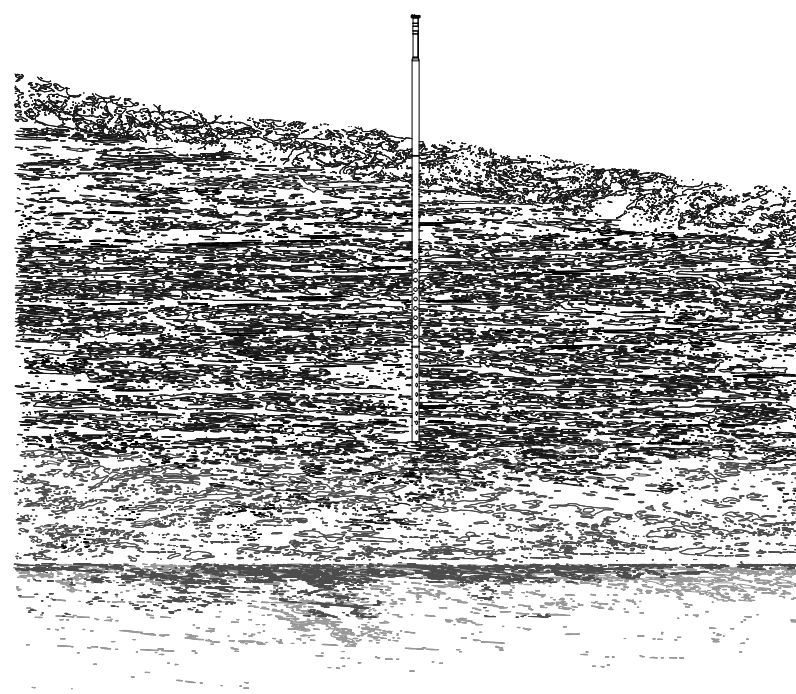


Site is repurposed as a temporary Landfill, storing waste for the Gasplasma process

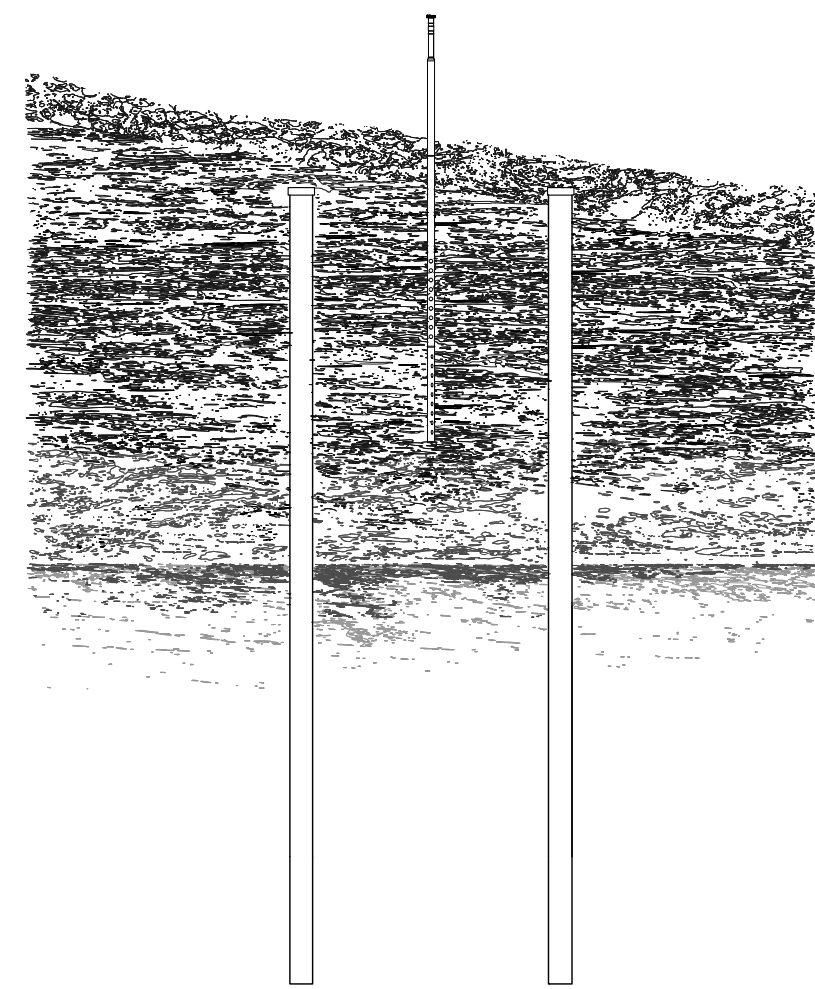




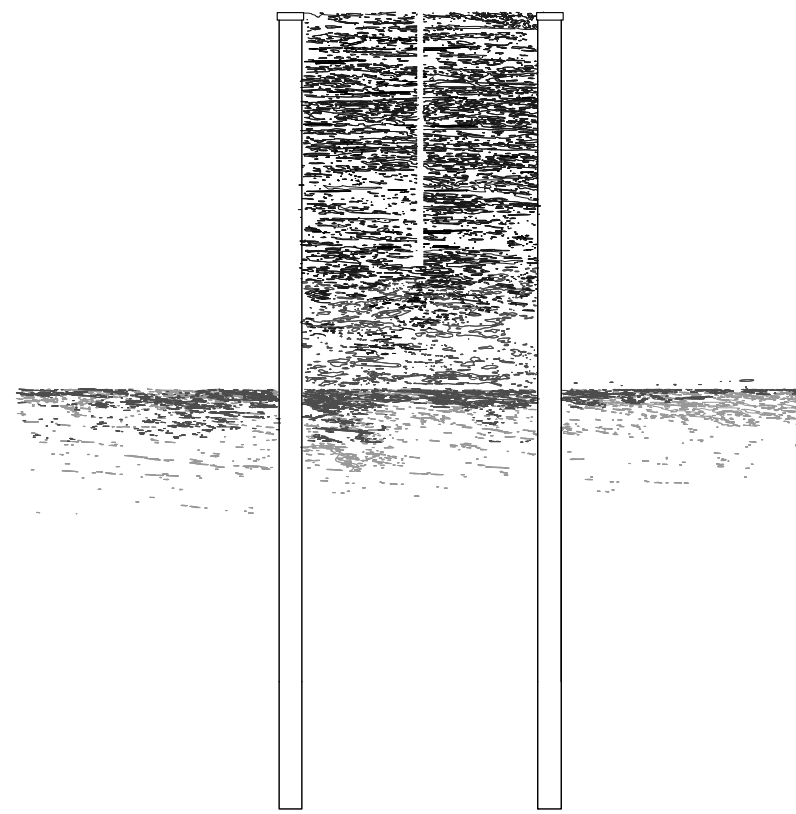




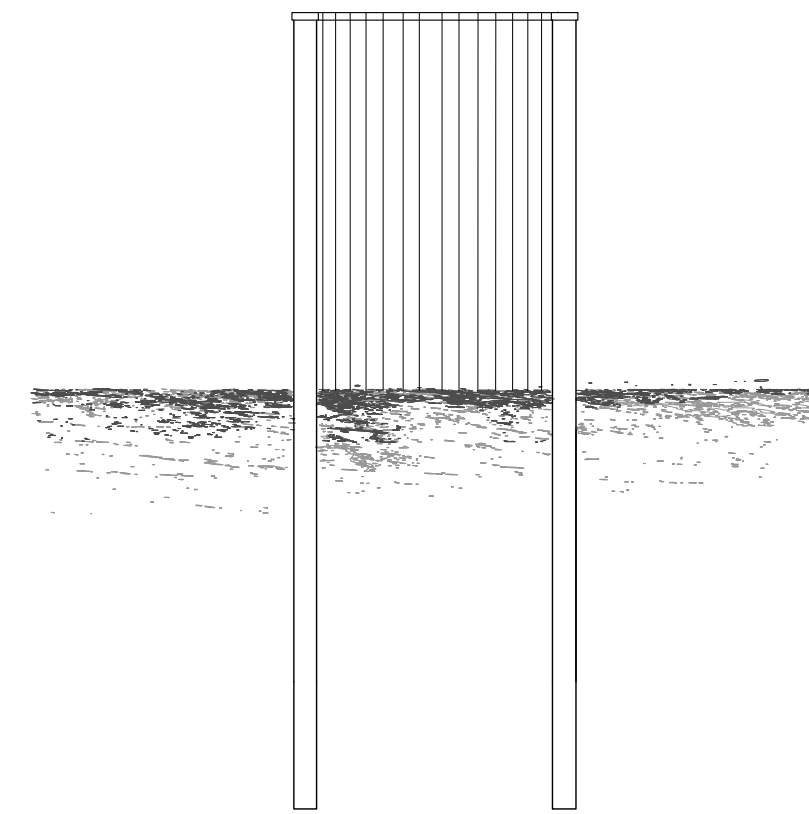
2024: Landfill closes



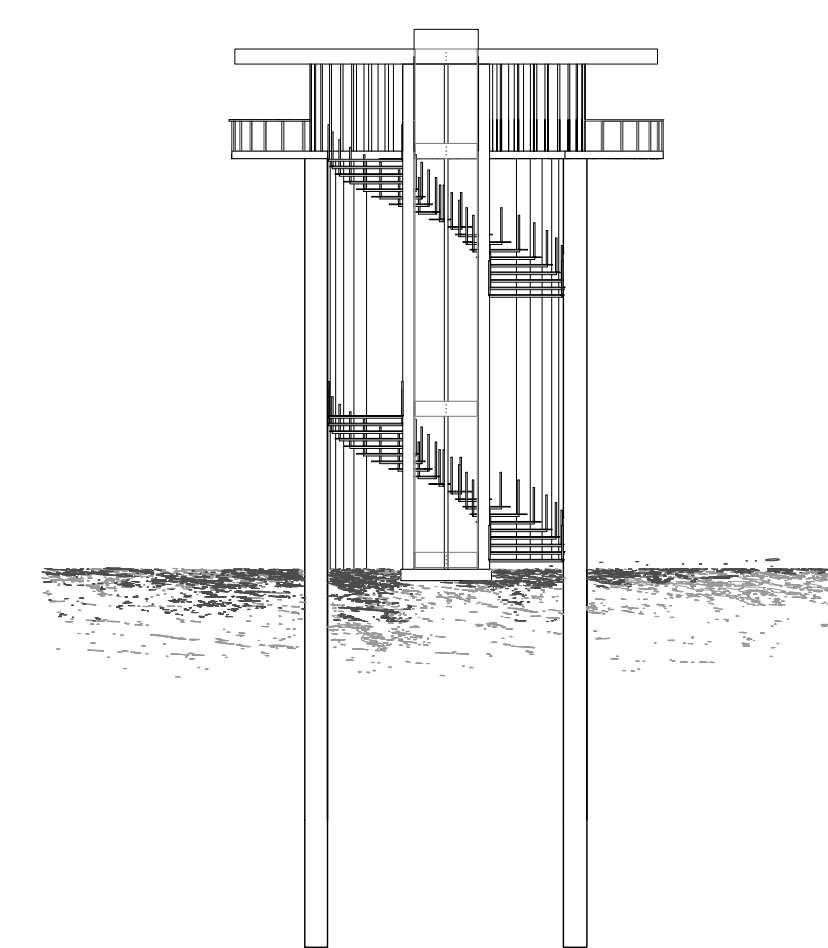
Secant Piles are cast



Landfill is excavated:  
waste contained in  
the Secant walls is  
protected for sampling  
in Microbial research

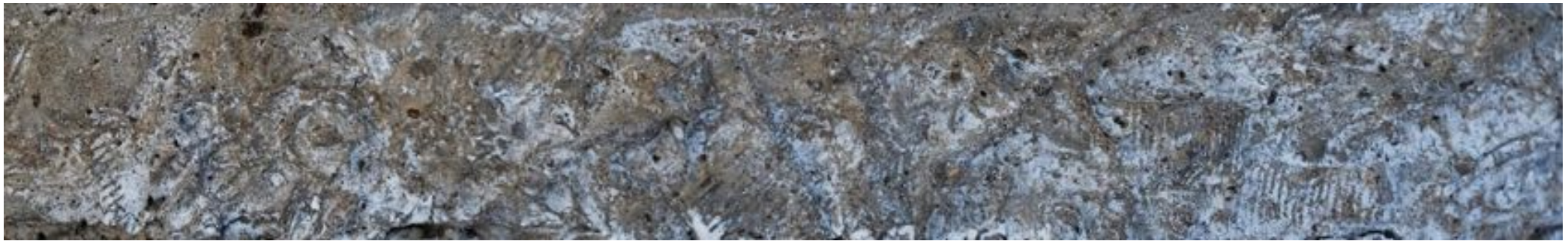


Once sample has  
been exhausted, the  
interior of the towers  
are excavated



Towers are converted  
into viewing platforms





2019 Plastic content of waste given strong definitive outlines in the concrete



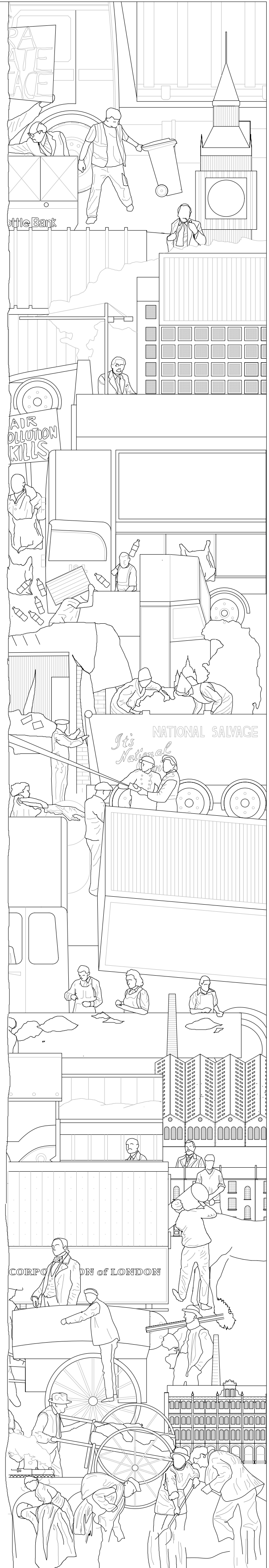
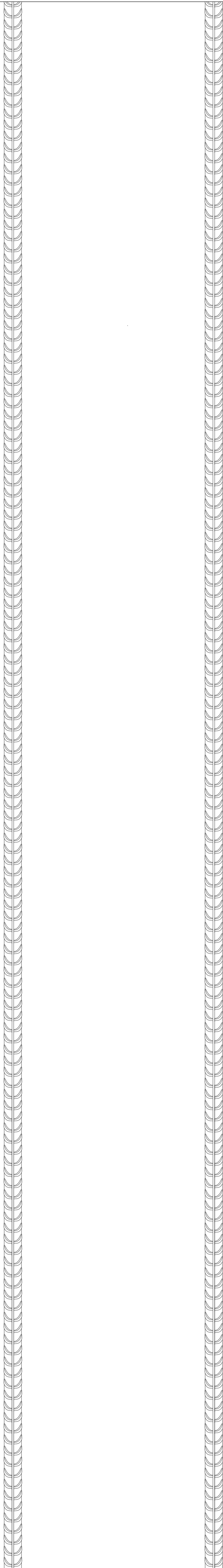
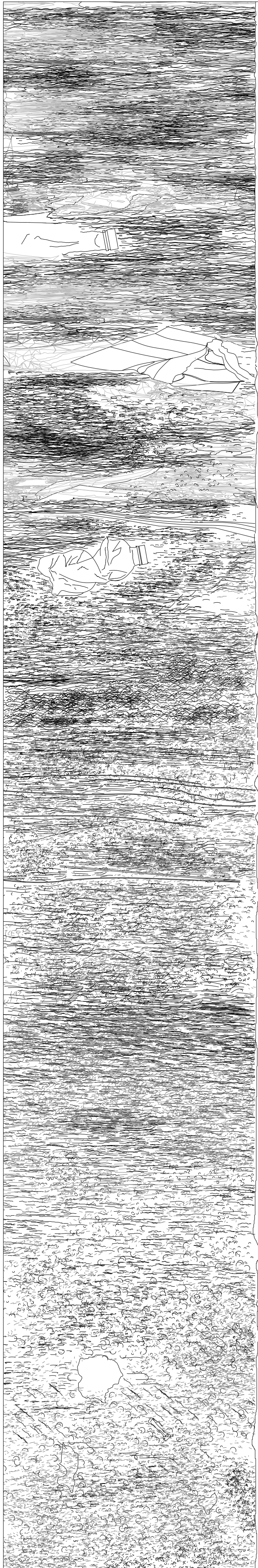
1960 Lots of paper (which doesn't decompose in Landfill), giving streaky definition



1900 Largely decomposed and compressed, little definition

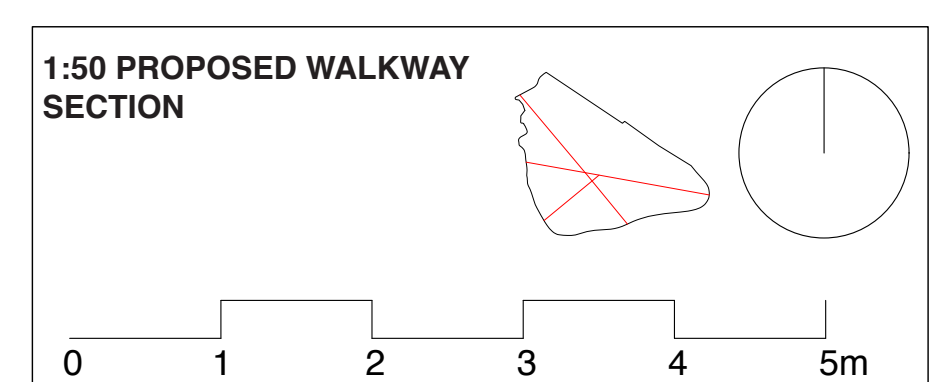
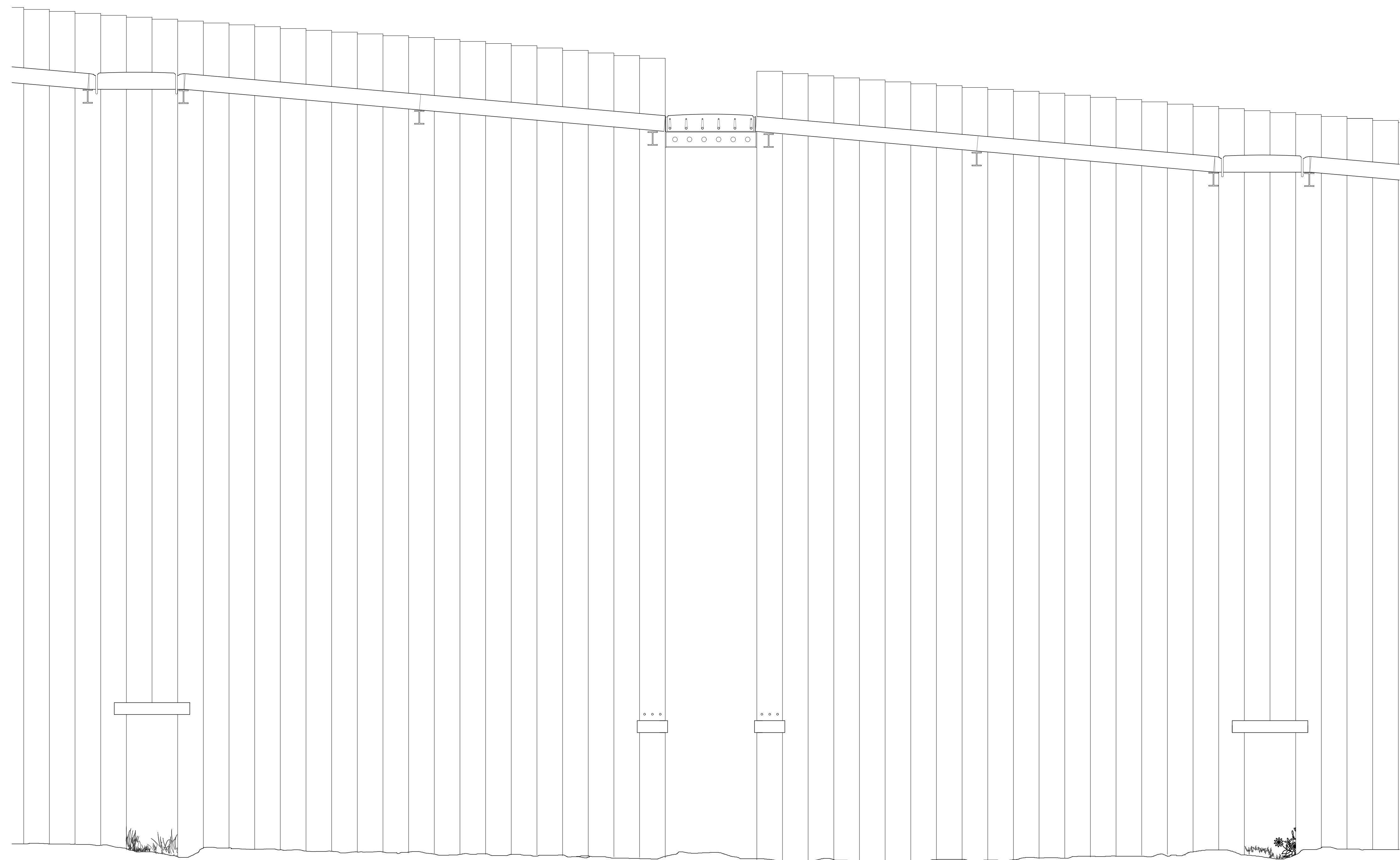
1:1 MAQUETTE  
Exploring how concrete cast against the waste in the landfill will vary in texture. The concrete will serve as an archive of how waste appeared and was deposited through time, with these textures changing as visitors walk through the park.



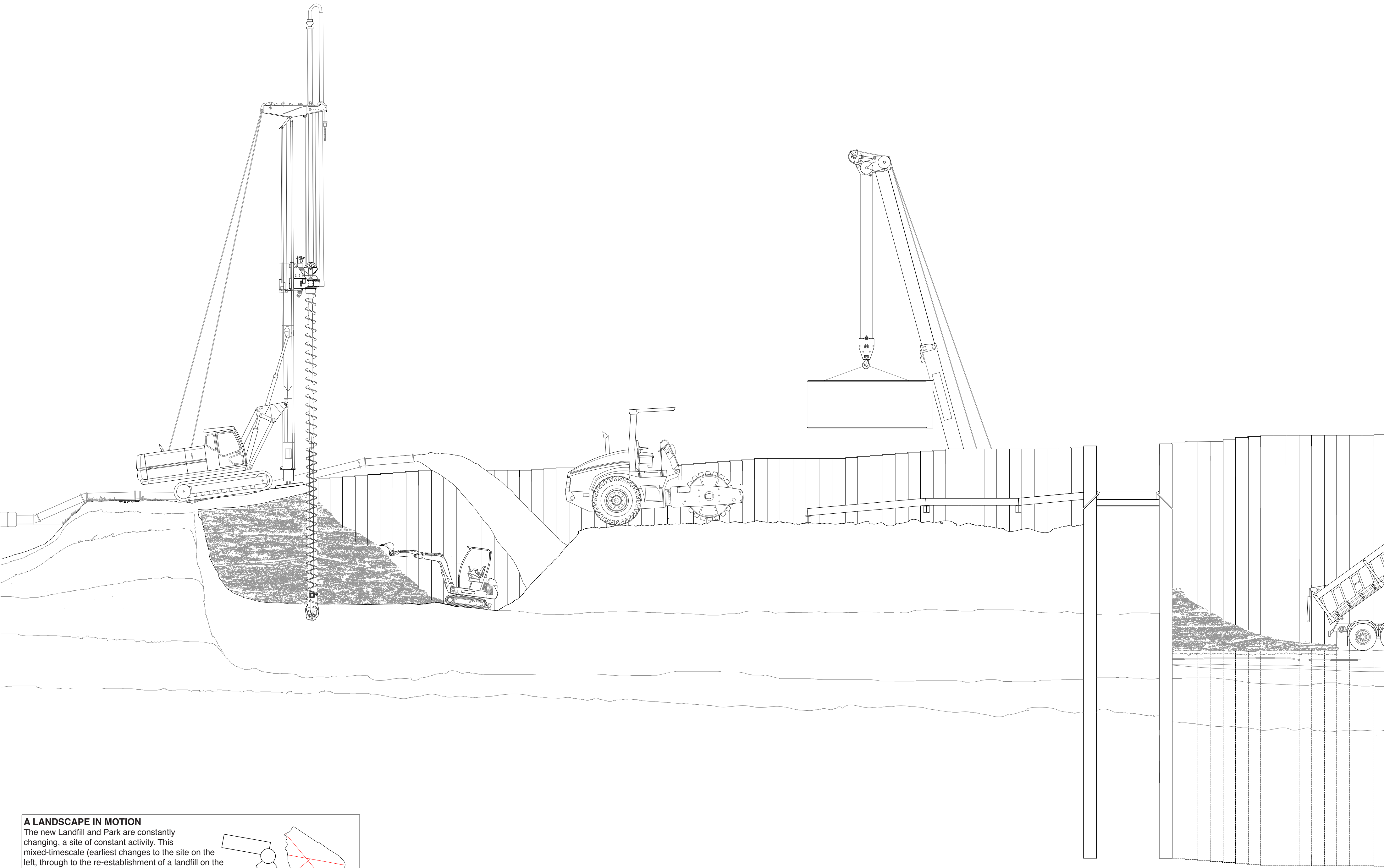


The Secant Piles hint at the former landfill. It bridges the gap between past and future.

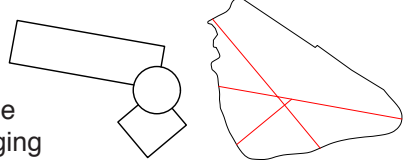








**A LANDSCAPE IN MOTION**  
The new Landfill and Park are constantly changing, a site of constant activity. This mixed-timescale (earliest changes to the site on the left, through to the re-establishment of a landfill on the right) section highlights how the Landfill will be changing through construction after 2024.



0

10

50

100m

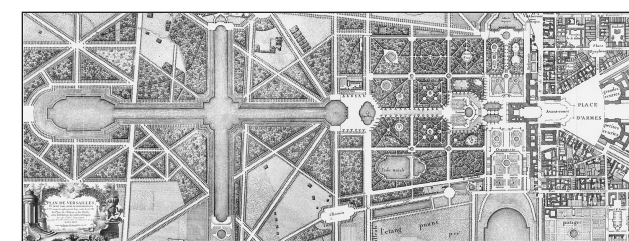
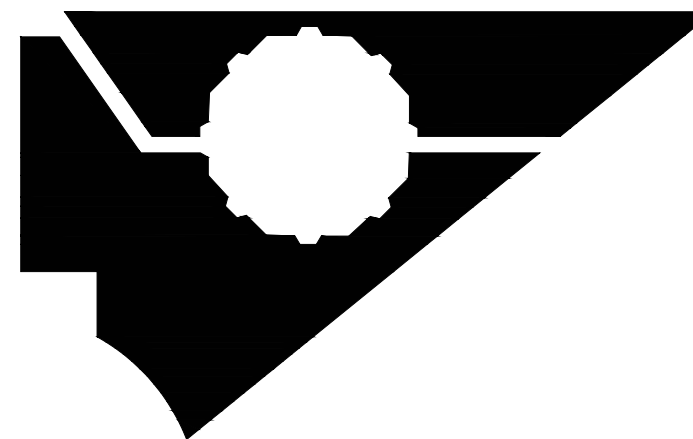
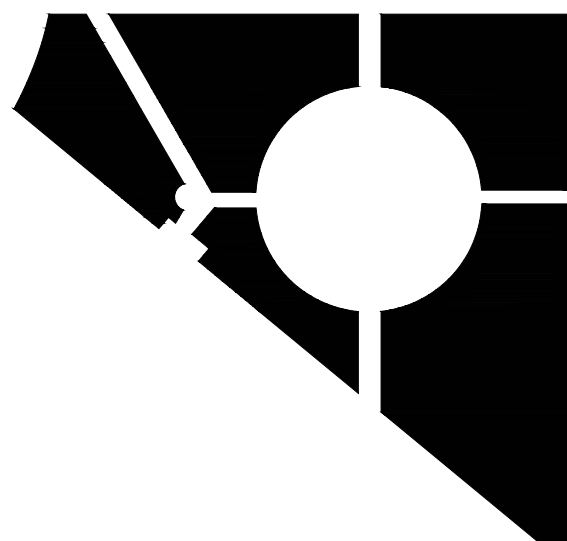
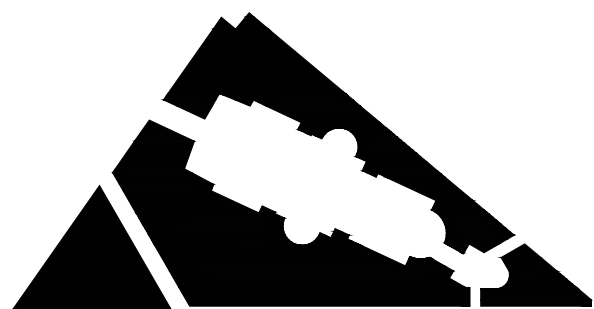
**“My waste was no longer within my sight or smell, but surely it fell within others’. What impact did my rejectamenta have on other living things?”**

Elizabeth Royte, Garbageland, 2005



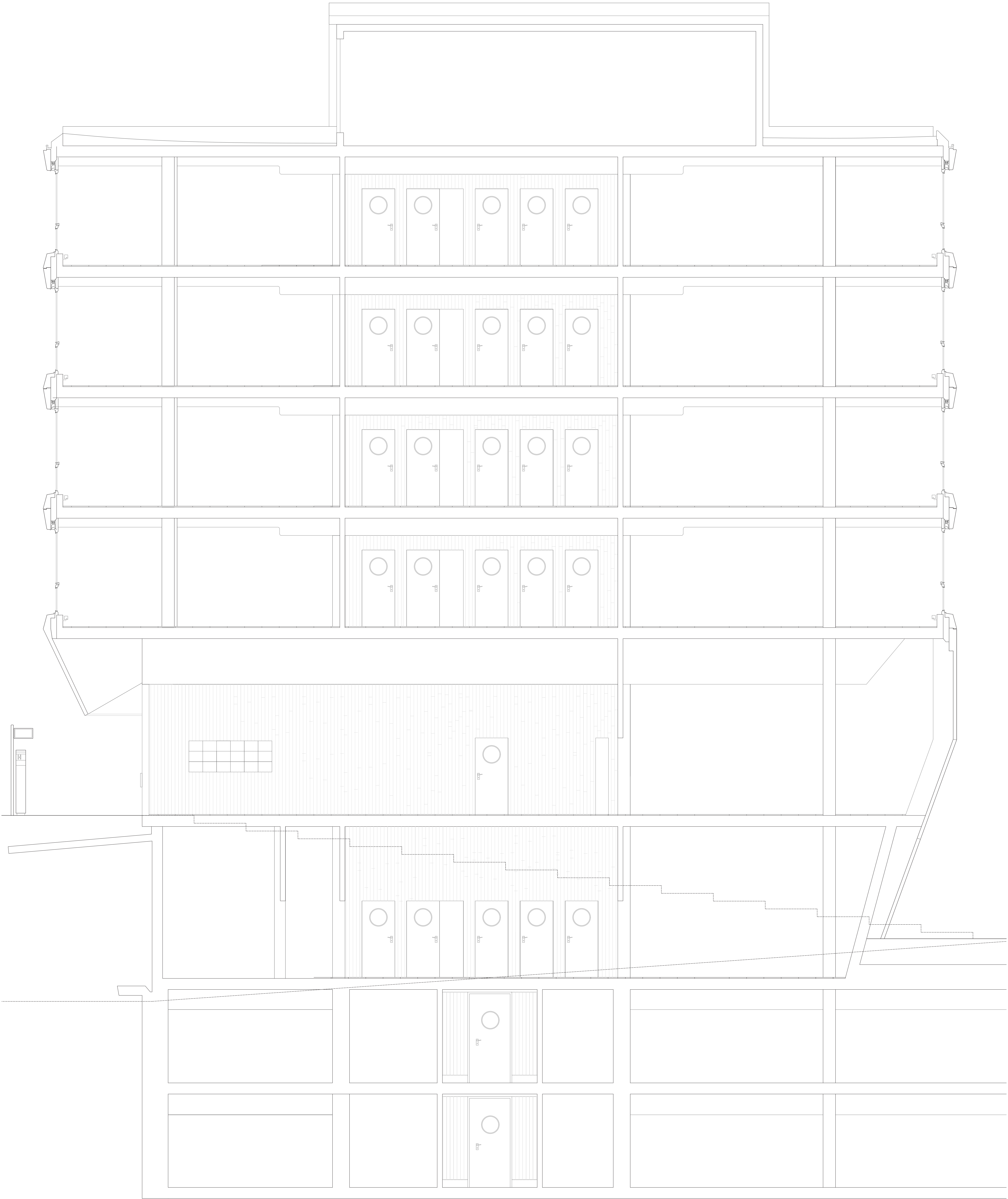






LEARNING FROM LAS VERSAILLES  
Exploration on how Versailles breaks up the triangular gardens into pathways and clearings

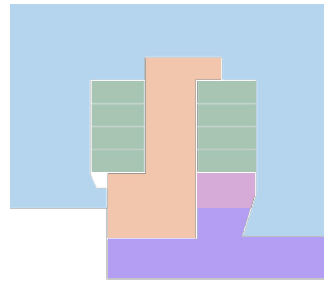




CHRIST + GANTENBEIN  
OFFICE BUILDING IN LIESTAL  
1:50 SECTION

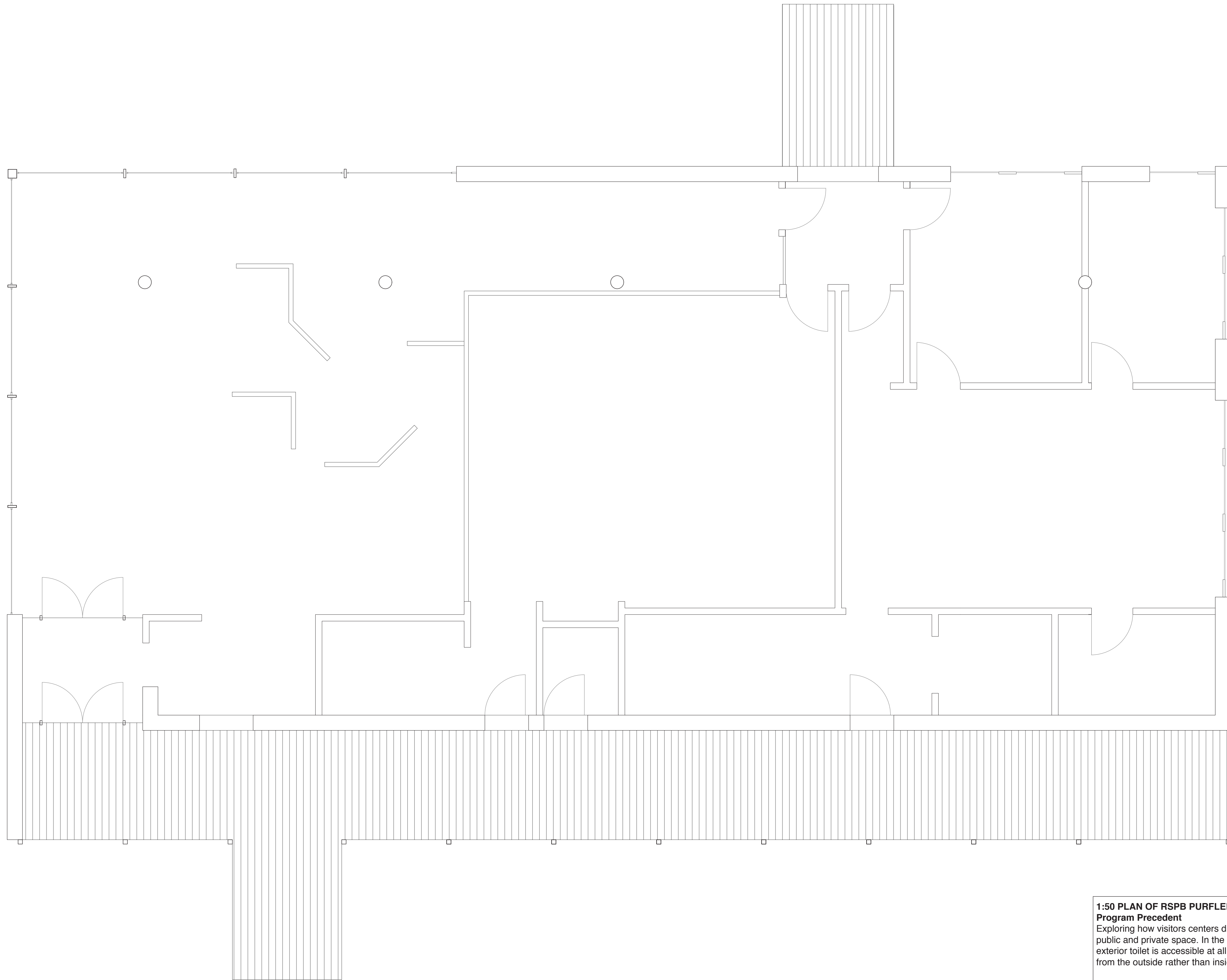
The building sits precariously in the public realm of busy street and bus station, with a variety of functions inside

----- =Topography behind cut line

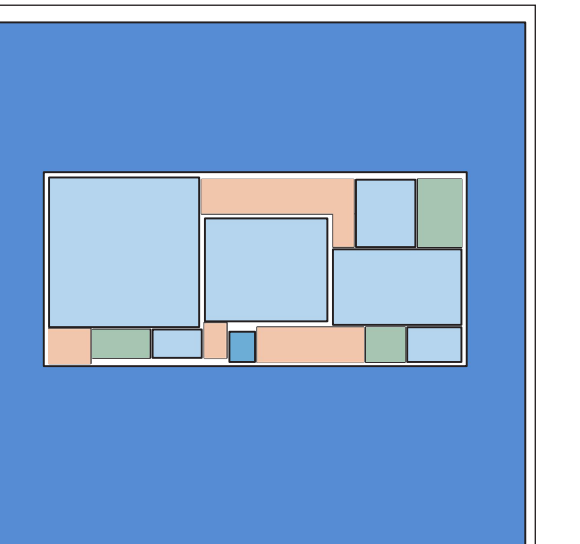


Public  
Private  
Retail  
Access  
Car park

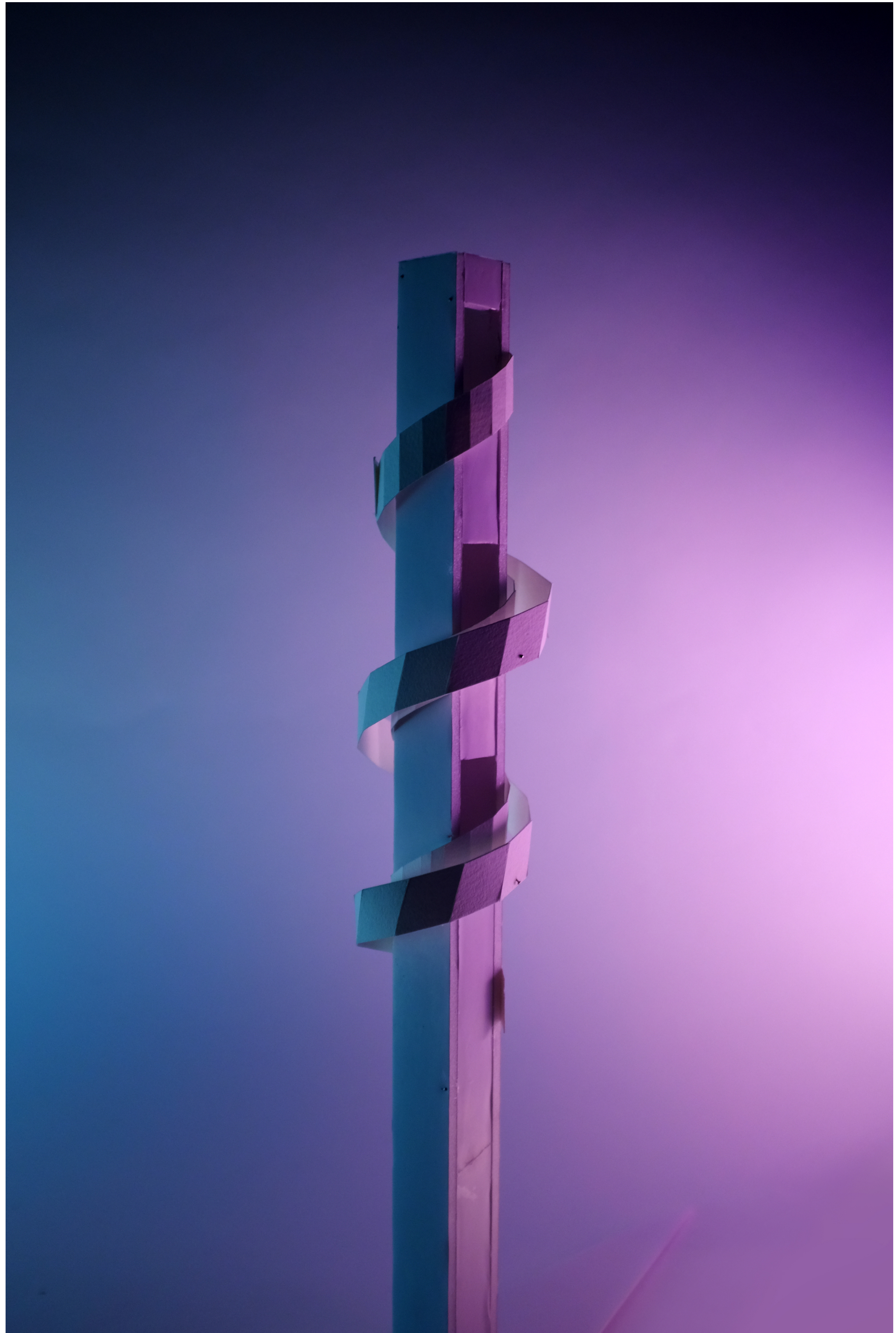




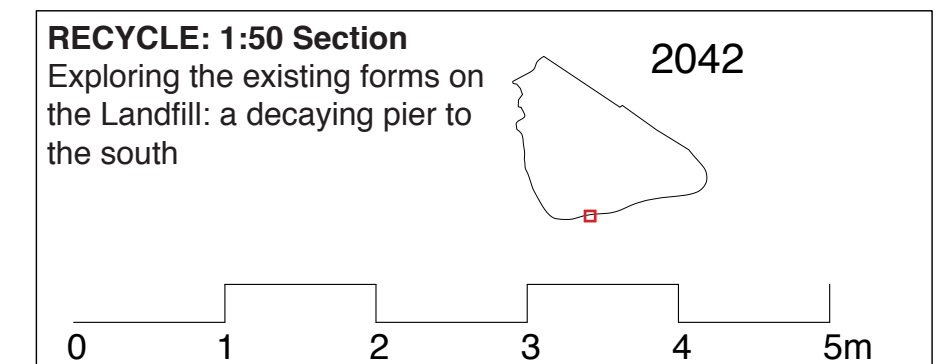
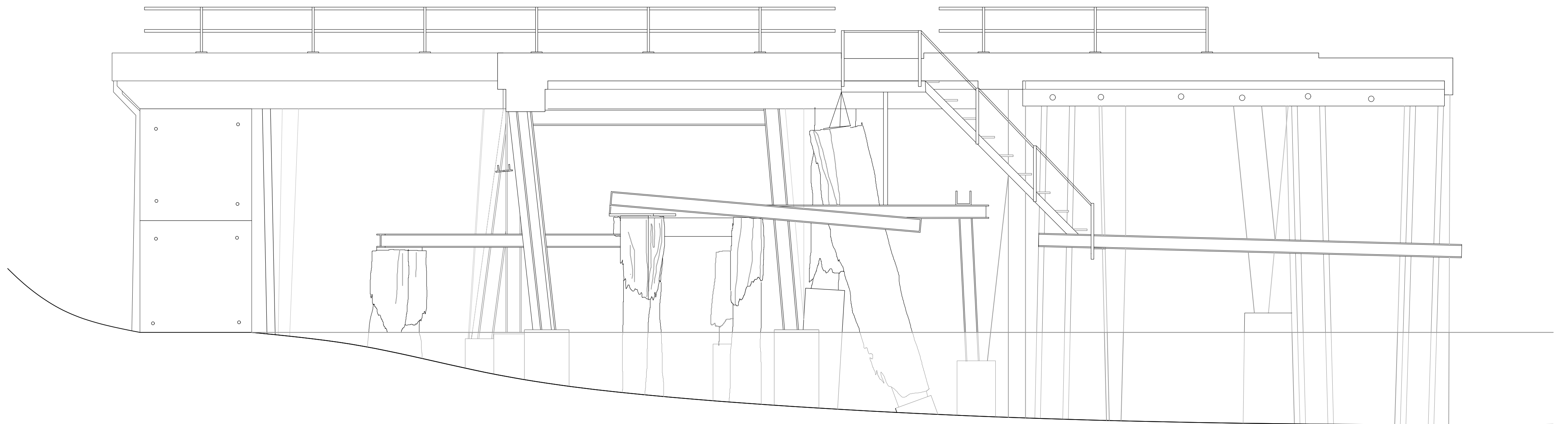
**1:50 PLAN OF RSPB PURFLEET VISITORS CENTRE**  
**Program Precedent**  
 Exploring how visitors centers distribute space, dividing public and private space. In the RSPB building, only the exterior toilet is accessible at all times, and is accessible from the outside rather than inside



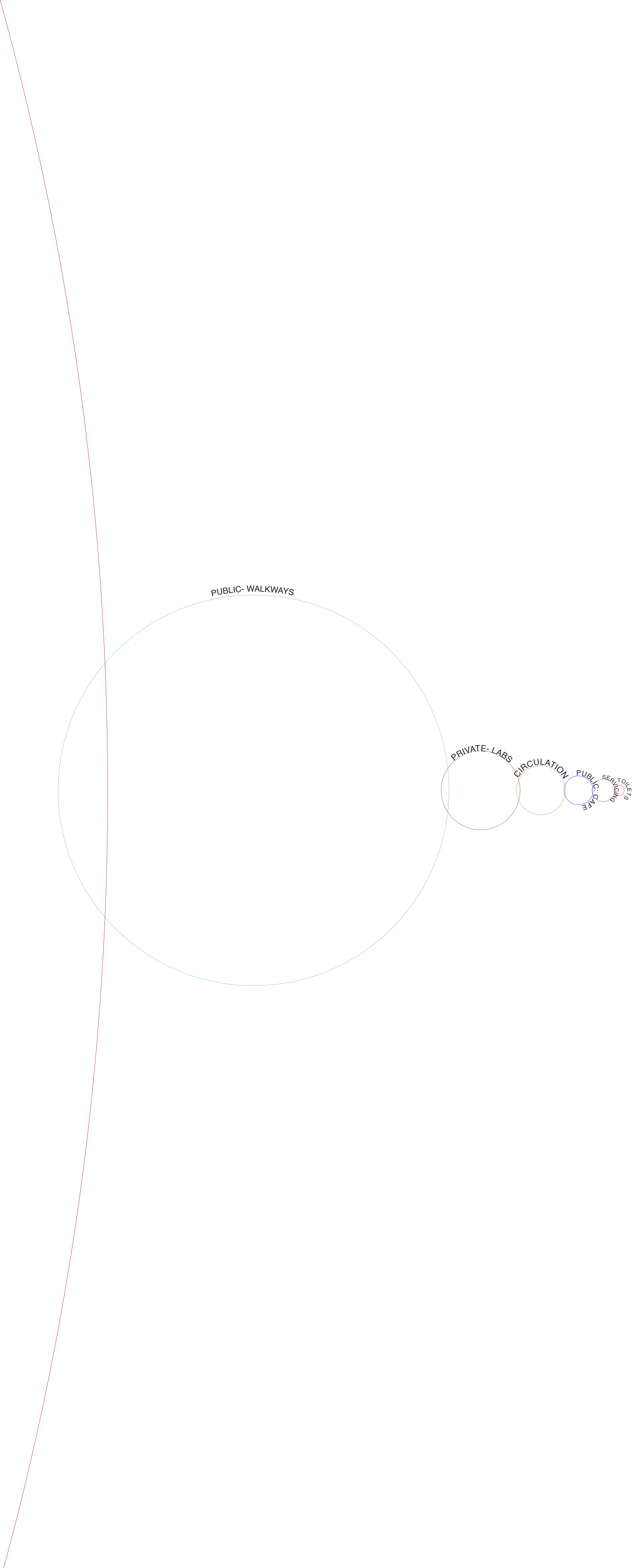




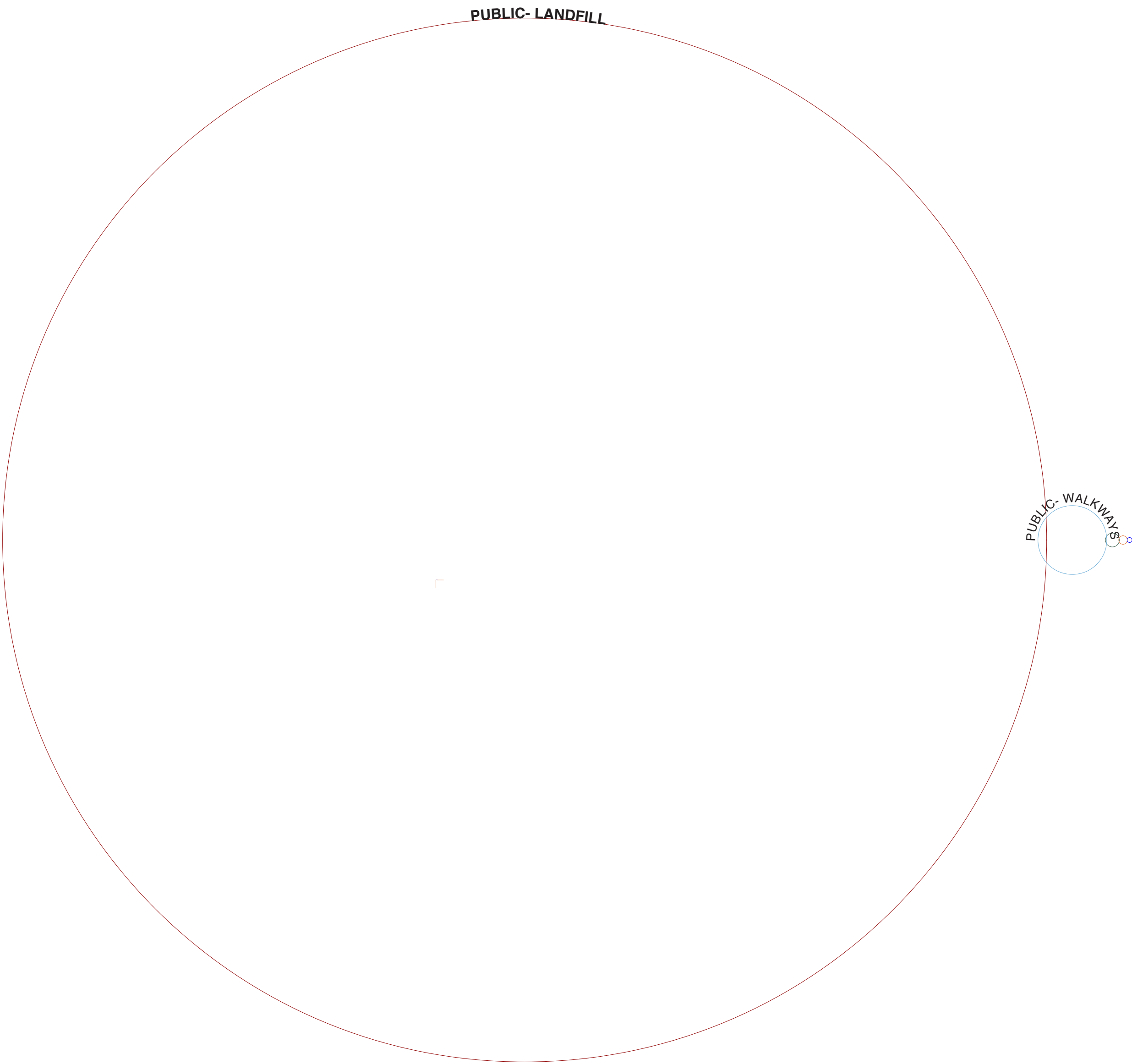




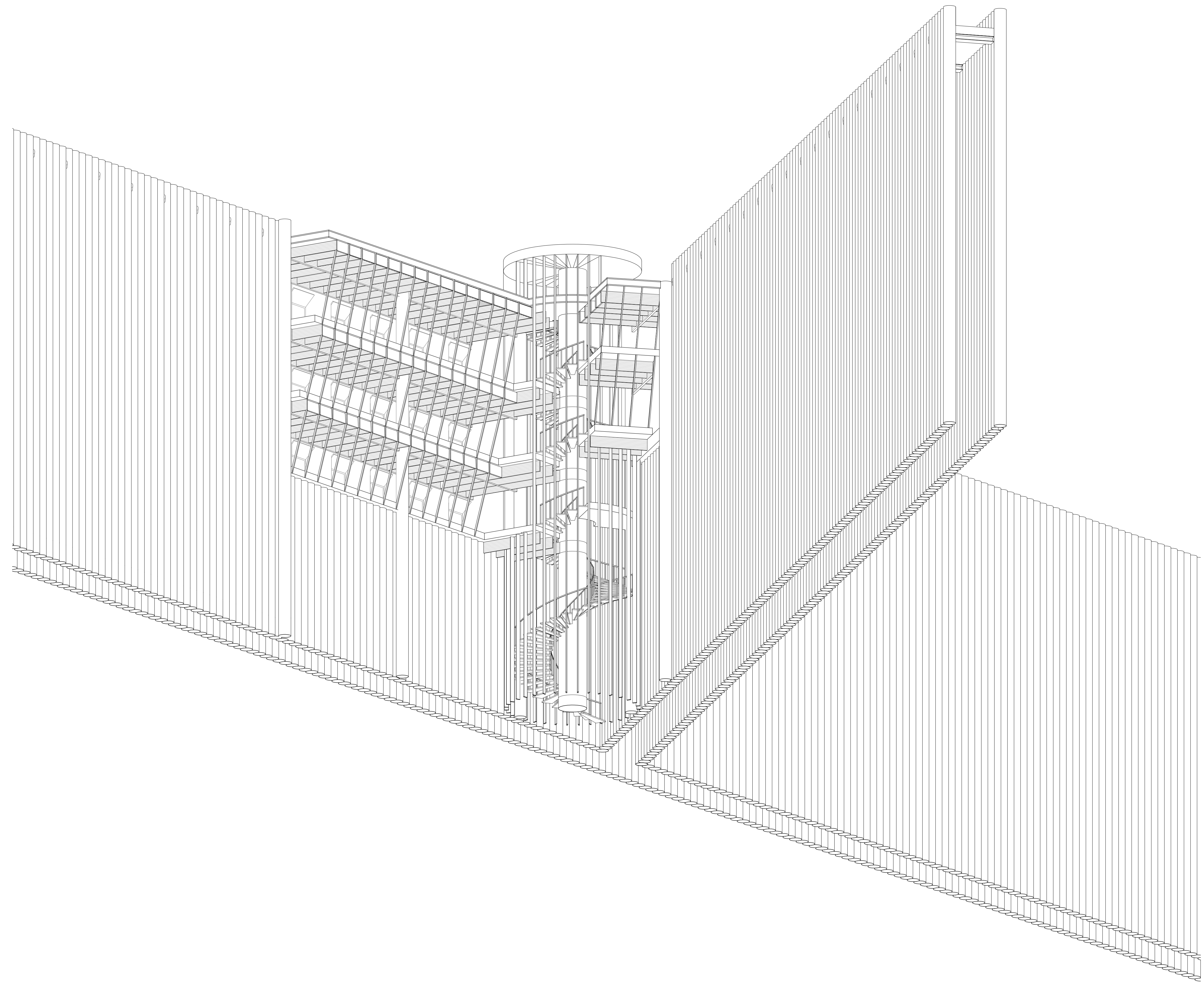




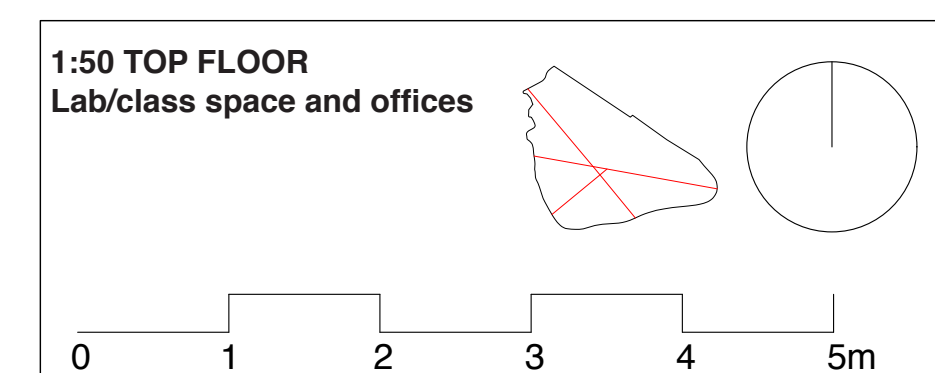
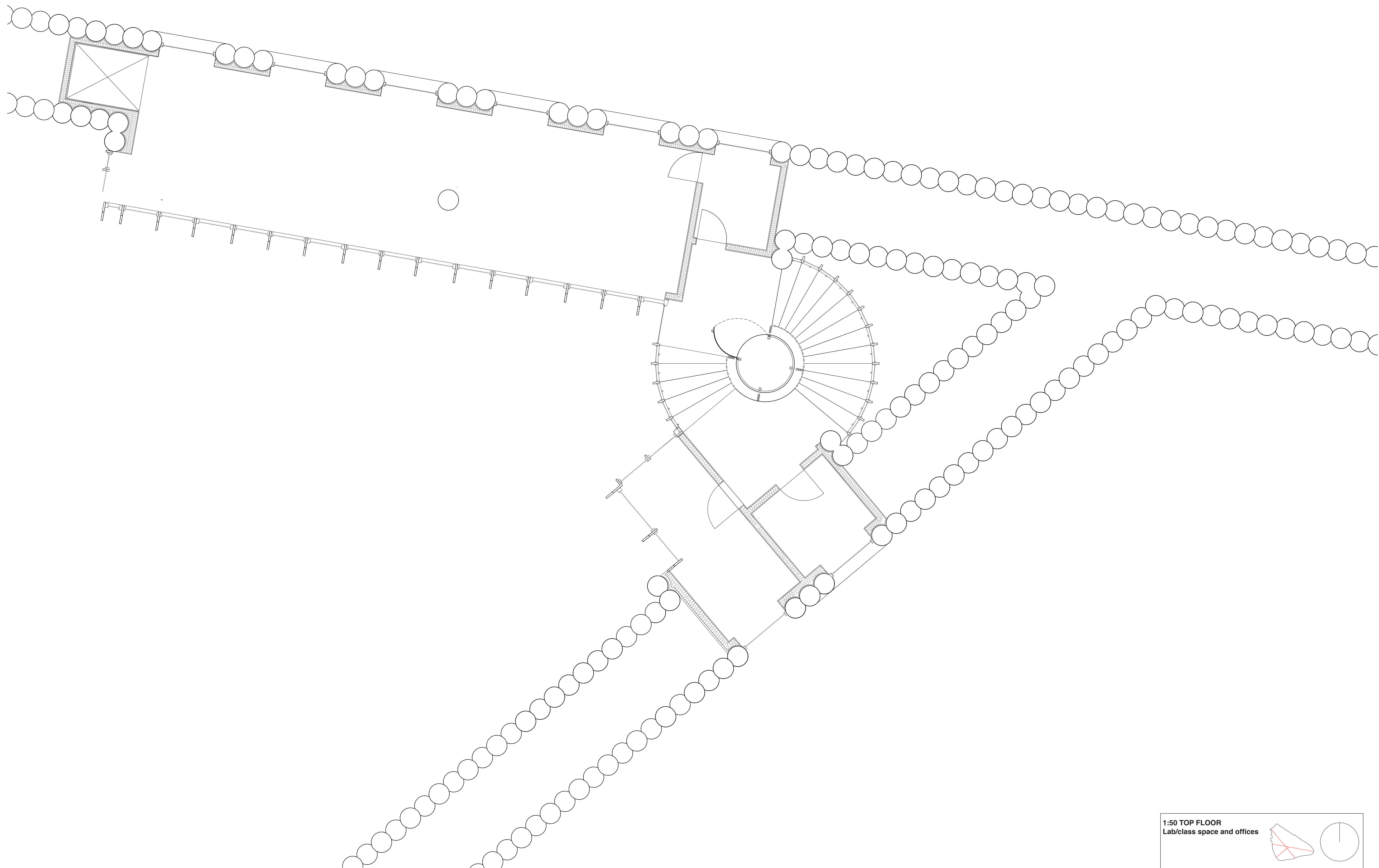




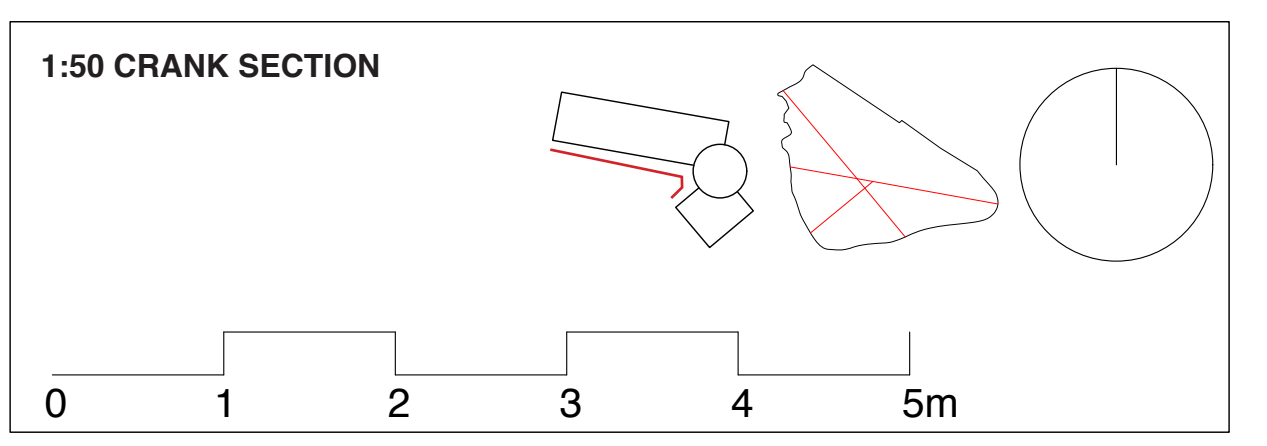
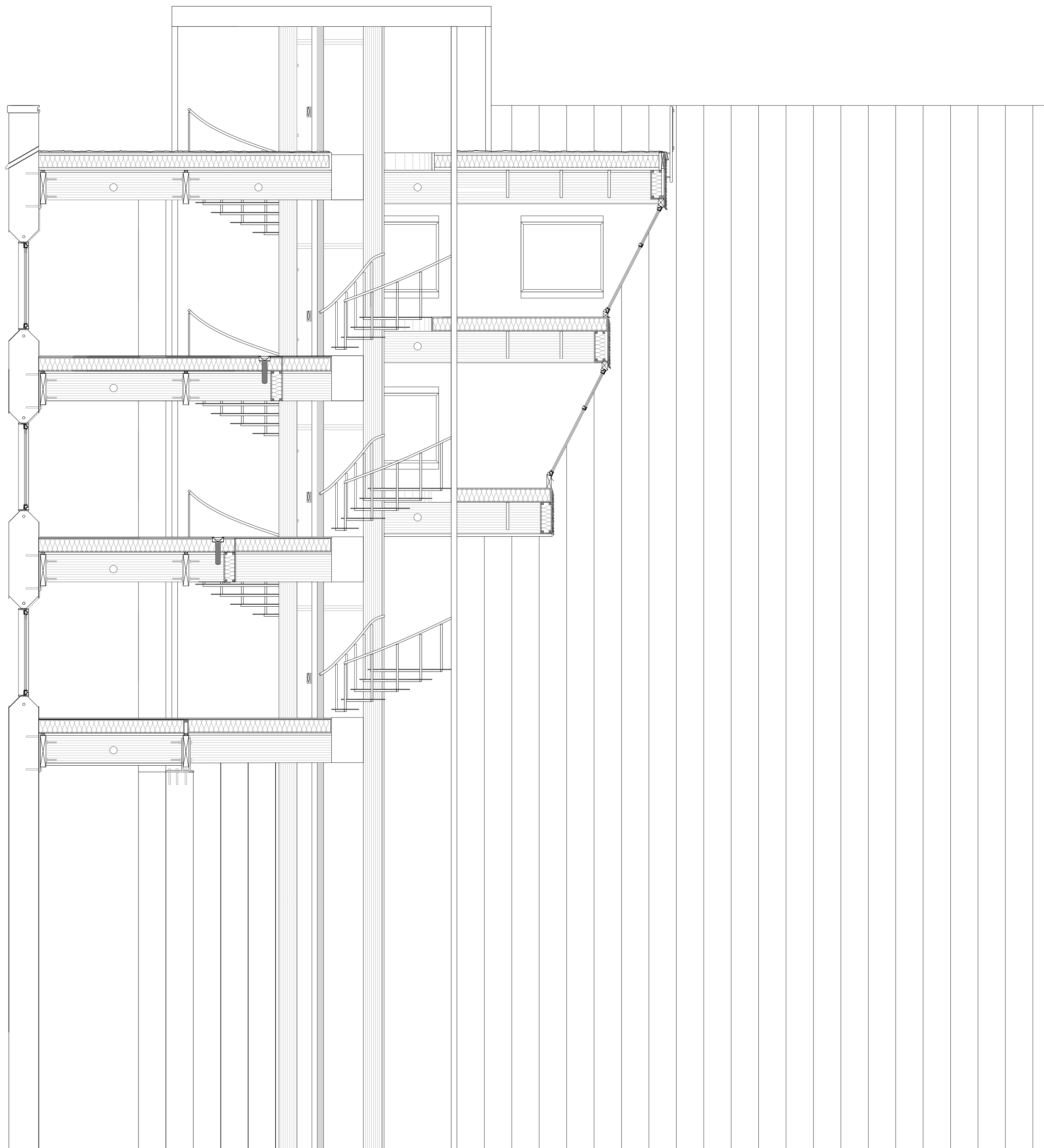




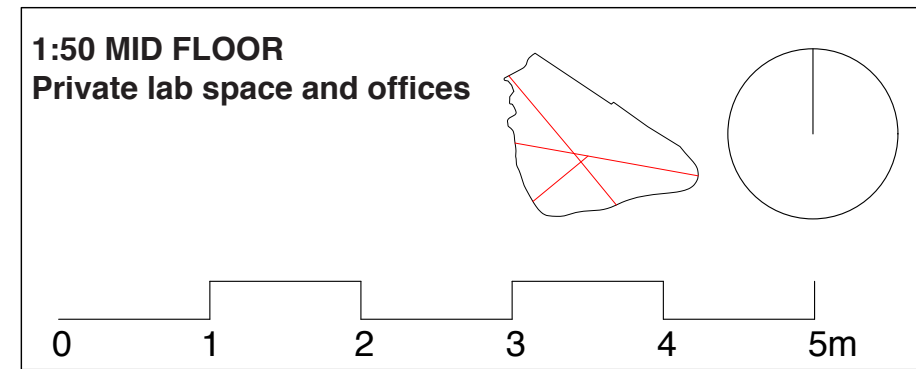
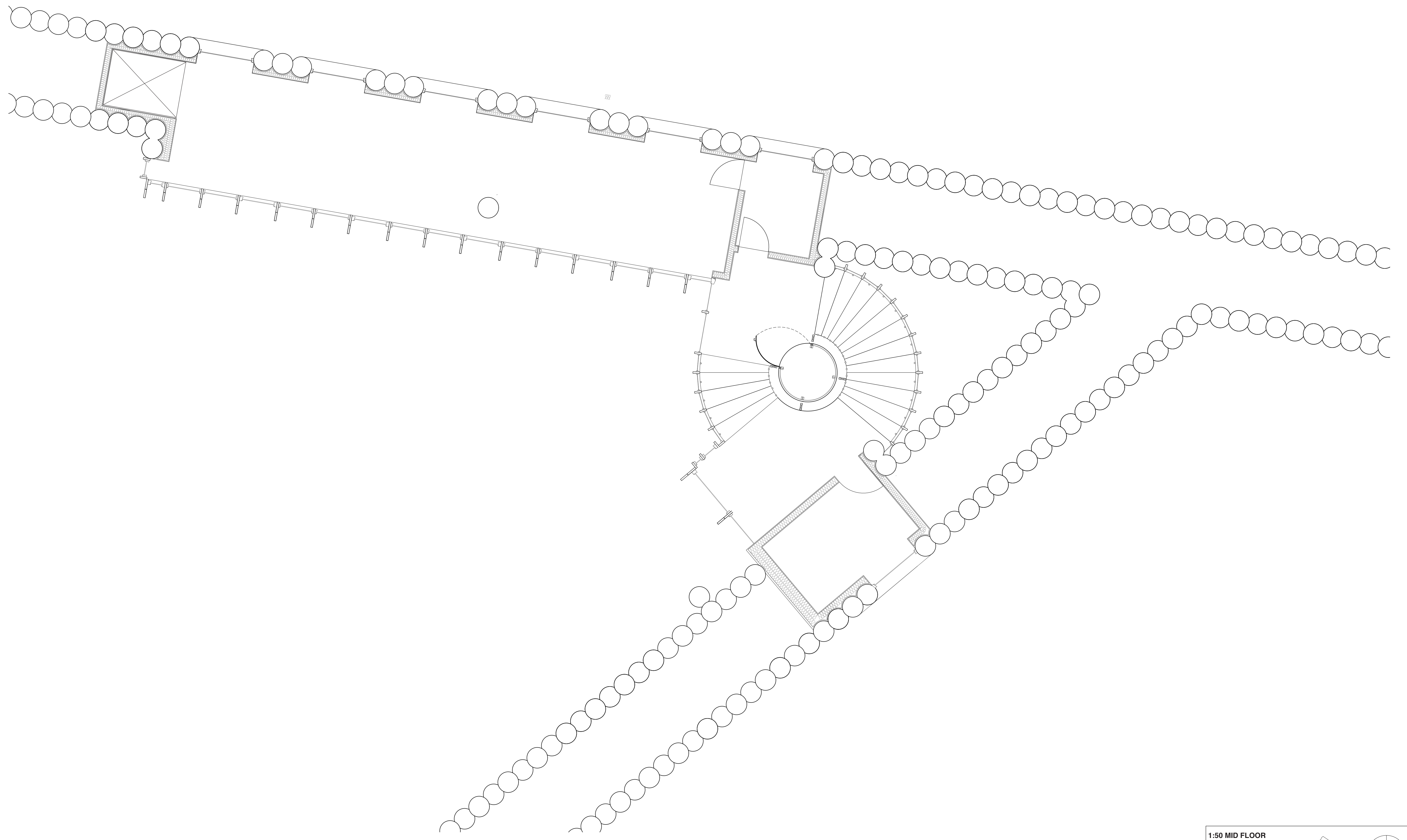




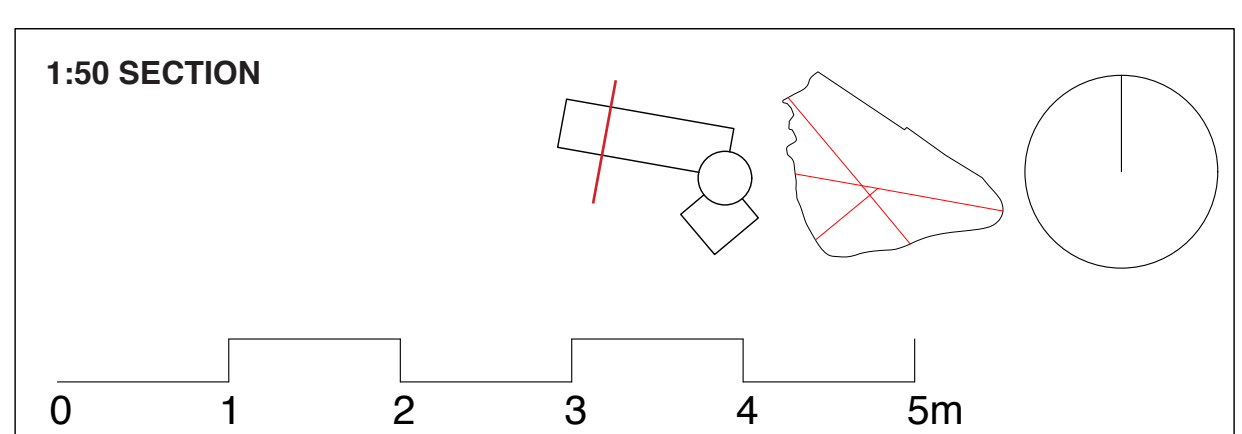
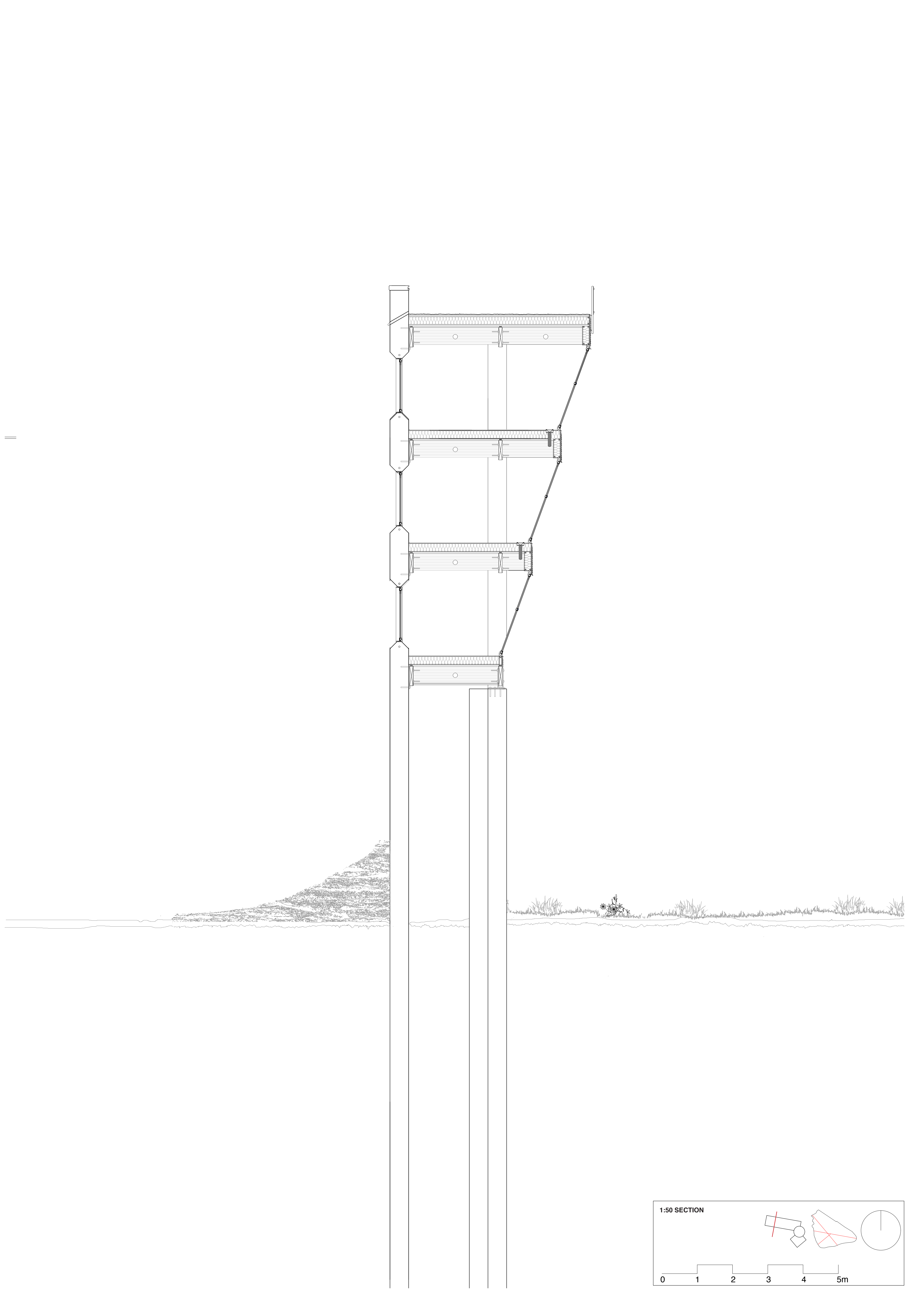




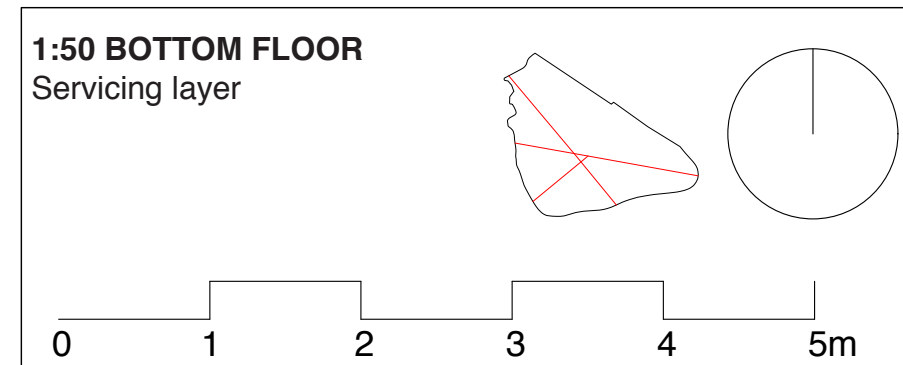
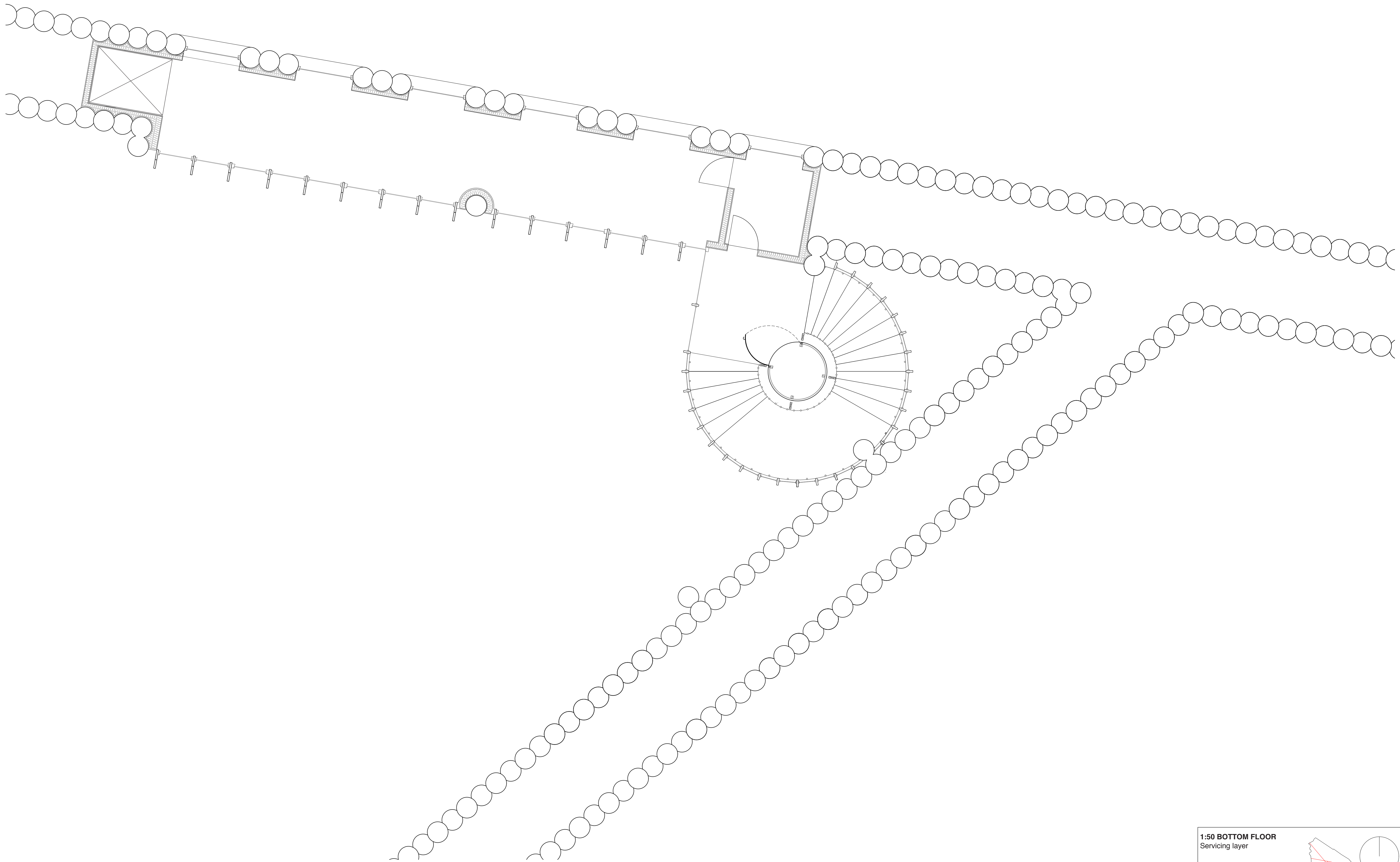


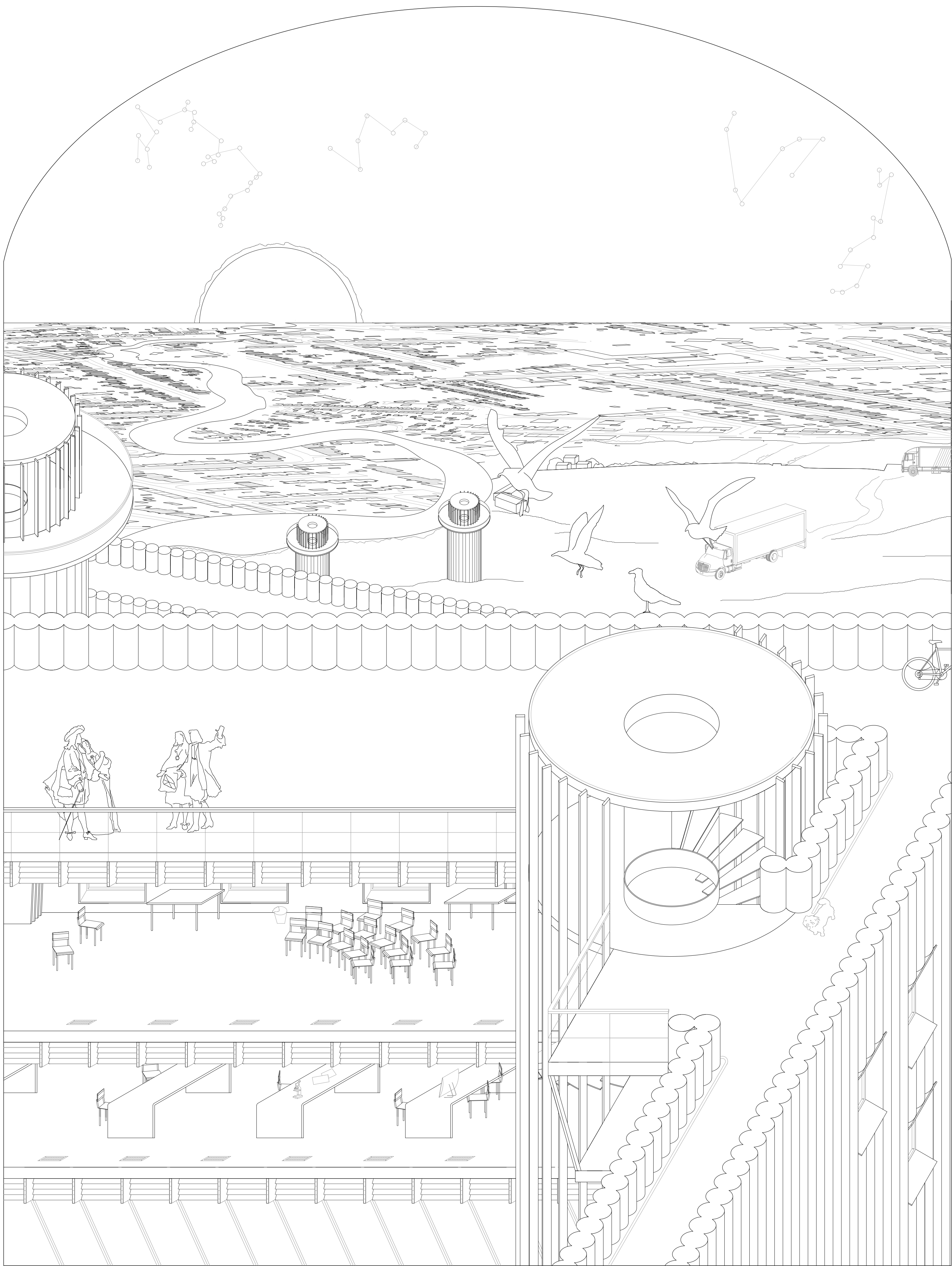












**“We are all stardust, we are all trash. Spending time in rubbish places, with their people and their gulls, we may begin to unpick the weave of this rag rug world”**  
mixed scale oblique isometric